

In the past two years the Audit Inspectorate mounted a number of projects which involved "across the board" research of topics thought to be worthy of comparative study. This report deals with one such study and it is hoped that its publication will lead to consideration of the points which have emerged. These are not intended as definitive statements but rather as audit views of matters deserving attention.

This study has been directed by Mr B J Madden IPFA of the District Audit Service and carried out by Mr S M Bradburn, FCIQB, of NBA Construction Consultants.

The Audit Inspectorate wishes to acknowledge the considerable assistance afforded by the officers and members of the local authorities involved in the study, the field staff of the District Audit Service and those bodies and individuals acknowledged in the report.



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CONTROL OF CAPITAL PROJECTS

Part One Summary Report

October 1982

PART ONE - SUMMARY

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INTRODUCTION

STUDY OBJECTIVES

This report contains the results of research carried out on behalf of the Chief Inspector of Audit into procedures for the control of building and civil engineering projects by local authorities. It combines two separate reports produced during the course of the study: "Control of Capital Projects : Contract Phase" prepared by the National Building Agency (NBA), and "Control of Capital Projects : Pre-contract Phase" produced by NBA Construction Consultants (NBACC). These are reproduced as Part Three and Part Two of this volume respectively: Part One comprises a summary of the salient points arising from the overall study, for the benefit of members, officers and others whose main interest lies in the principal findings and recommendations.

The objectives of the studies were:

- (1) To identify and record the essential features of procedures for the effective control of local authority capital projects (both building and civil engineering schemes): from inception to the letting of contracts (the pre-contract phase); and from the signing of the contract to its completion (the contract phase).
- (2) To publish guidelines on recommended principles, identifying and describing current good practice.

Parts Two and Three of this report are concerned with satisfying the first of these objectives; Part One comprises a summary of the essential elements of effective control at each stage of the contracting process, together with a number of appendices containing check lists and sample forms by way of illustration of current good practice.

It should be noted that, although reference is made, where appropriate, to the roles of officers and consultants in connection with building contracts, the study is concerned more with issues of policy than detailed working procedures. For a definitive statement on the responsibilities of professional and technical officers and consultants engaged on contracts, reference should be made to the tripartite statement issued by the joint working party of the Chartered Institute of Public Finance and Accountancy (CIPFA), the Royal Institution of Chartered Surveyors (RICS) and the Society of Chief Architects of Local Authorities (SCALA) referred to in section 1.2 below.

The Chief Inspector of Audit, in his 1978/79 annual report, drew attention to evidence of severe weaknesses exhibited by a sample of local authorities in the financial control of building contracts, particularly in the construction phase. He accordingly commissioned the NBA in August 1980 to carry out work in this area, the results of which were published in December 1981, (the "Contract Phase" report). A further commission to extend the research into the pre-contract phase was assigned to NBA Construction Consultants upon the NBA's closure in February 1982: it was completed, together with this summary report, in October 1982.

The research has been carried out in consultation with officers from a number of local authorities (initially from a sample selected by the District Audit Service and latterly on an individual basis) and draft reports were circulated for comment to the principal professional bodies and government departments concerned with building and civil engineering contracts, (see section 1.4). Much valuable advice and guidance has been received from the joint working party set up by CIPFA, RICS and SCALA in response to the Chief Inspector of Audit's comments on financial control procedures and the subsequent report of the Advisory Committee on Local Government Audit in 1980, which encouraged those concerned in the control of building contracts to prepare a joint statement setting out their respective responsibilities. The working party's statement was published in 1982 in the form of a practical guide entitled "The control of building projects - the role of professional officers in local government" (Bibliography reference 1).

PRINCIPAL FINDINGS AND RECOMMENDATIONS

The severe financial constraints under which local authorities have been obliged to operate in recent years have brought about substantial and almost universal reductions in capital programmes. In addition, the Government's new cash limit arrangements for capital expenditure have placed a new emphasis on the need to ensure that funds are closely controlled and that potential under- and overspend are balanced between block allocations. Set in this context, the identification of procedures for the control of capital contracts which represent both good professional practice and fulfil local authorities' policy objectives is clearly a worthwhile exercise.

The study of existing procedures revealed many examples of good practice which supported the views expressed by the principal professional bodies representing technical officers in local government and their external consultants that poor financial control of contracts at the professional level was not a universal malady. Likewise, many Councils exercise responsible client control at member level and also employ the offices of internal audit in such a manner as to ensure that established control procedures do not degenerate for want of adequate monitoring arrangements. However, for those authorities wishing to check the adequacy of their current control procedures, the principles identified in this document are recommended for guidance.

The main findings and recommendations are set out below.

(1) Policy objectives and the capital programme

A local authority's capital programme represents the latest expression of many policy decisions, a substantial number of which may have been taken over a considerable period of time. Besides the capital expenditure involved, the projects themselves are significant for the contribution they are expected to make to the life of the local community; it is therefore eminently desirable that each completed scheme represents the optimum means of achieving the desired benefit, both in terms of cost and social gain. Such objectives should be clearly defined at the outset and monitored throughout the life of each project; the use of sound capital programme monitoring techniques will help to ensure that individual schemes are tied in with longer term objectives on a corporate basis.

(2) The corporate approach

A number of different departments in an authority, representing different policy-making committees, may participate as clients in the capital building programme. Fellow officers in technical support departments are likely to be employed, or to advise on the employment of external consultants, to act in a professional capacity in the design and management of the ensuing building contracts. It is important, for the effective enactment of Council policy, that these different client interests should be balanced by efficient corporate management of the total capital programme at committee level and that contributions at officer level should also be fully co-ordinated. It may be necessary for larger authorities to set up special officer teams to achieve these ends.

(3) "Client awareness" and member/officer relationships

Where difficulties with capital projects are experienced by local authorities, the underlying causes are likely to be found to originate in the breakdown of good working relationships between client committees and officers representing service departments. This may in turn derive from a number of factors: lack of awareness of the client role; unfamiliarity with the construction process; the supremacy of political decisions over technical/contractual considerations; or simply a failure to communicate on the part of individuals.

In this connection, the structures and procedures set up by authorities for the execution of capital projects will have an important part to play. Standing orders, internal regulations and departmental procedure notes/codes of practice should be linked in a hierarchy of management procedures which clearly define the responsibilities of members and the duties of the authority's officers and consultants with regard to capital projects. Whereas the elected members have a prime responsibility to act in the strategic oversight of construction projects, it falls to the technical officers and/or consultants employed by the authority to educate, inform and report to client committees in all matters which are properly the client's concern.

At the same time, technical officers and consultants should be given the freedom to exercise the powers delegated to them by the authority's regulations and due regard given to their professional responsibilities within the various forms of building contracts under which they may be required to act.

(4) Monitoring time and cost

Apart from the purely social aspects, the two most important measures of performance in respect of local authority construction contracts are the achievement of completion within time and cost limits.

Whereas the importance of cost and progress monitoring during the construction phase is widely acknowledged, it is equally vital that these aspects are controlled in the pre-contract phase, when many of the more significant, often irreversible decisions affecting the timing and ultimate cost of the scheme are taken.

Again, officers and consultants have a duty to provide the necessary information to enable client committees to measure the performance of individual projects at appropriate stages, as well as to facilitate the overall programming of schemes for capital budgeting and cash limit purposes. While the forecasting of completion dates and expenditure patterns on capital projects must always be a somewhat imprecise act, the new emphasis on flexibility in capital expenditure controls and the full utilisation of cash allocations seems bound to lead to a growing demand for technical departments to provide increasingly accurate and detailed information for the use of central policy committees.

1.4 ACKNOWLEDGEMENTS

This report was written by A.Jackson-Robbins, B.Sc., MCIOB, under the general direction of S.M.Bradburn, FCIOB.

NBA Construction Consultants wishes to acknowledge the valuable assistance received throughout the studies on contract procedures from the bodies listed below and in particular for the generous advice and guidance given by the individuals named in Appendix 14. Our thanks are also due to J.Sherring and B.J.Madden of the District Audit Service, who have directed the studies on behalf of the Chief Inspector of Audit.

The authorities represented in the initial consultations were:-

- * County of Avon
- * Derbyshire County Council
- * Luton Borough Council
- * City of Portsmouth
- * City of Southampton
- * Metropolitan Borough Council of Stockport
- * London Borough of Wandsworth
- * North Yorkshire County Council

In addition, reference has been made to the internal regulations and practice notes of East Sussex County Council which have been found particularly helpful. The following bodies were circulated with copies of the main reports on which this summary is based: their various comments and responses were of considerable assistance, particularly at the final drafting stage. It should be recorded that this does not imply that the bodies concerned have necessarily given their full and unqualified endorsement to either document.

- * Chartered Institute of Public Finance & Accountancy (CIPFA)
- * Royal Institution of Chartered Surveyors (RICS)
- * Society of Chief Architects of Local Authorities (SCALA)
- * Institution of Municipal Engineers (IMunE)
- * Institution of Civil Engineers (ICE)
- * District Auditors' Society
- * Department of the Environment (Housing B6 Division)

2 THE CAPITAL PROGRAMME

2.1 STRATEGIC POLICY OBJECTIVES

It is an essential prerequisite to the success of a local authority's capital programme, and in particular the attainment of optimum value for money, that individual construction projects be proposed and implemented within a clear framework of strategic policy objectives.

Thus the effectiveness of the authority's structures and procedures should be judged by their ability to ensure that:

- * all policy objectives are clearly defined;
- * policy objectives in relation to different heads of expenditure are compatible and co-ordinated;
- * individual projects represent the optimum means of achieving these objectives.

2.2 THE CORPORATE APPROACH

A further vital factor is the application of the principles of the corporate approach, by way of team working across all departments and committees, manifested in:

- * all relevant considerations being taken into account and held in proper balance at policy level;
- * all necessary contributions being effectively integrated at a practical level.

2.3 PRIORITIES IN RESOURCE ALLOCATION

A key objective must be that, within the prevailing framework of political emphases, the selected spending options represent the maximum gain to the community for the capital available.

The authority's procedures for the appraisal of capital projects must therefore be able to demonstrate that:

- * the assessment of social gain is broadly based, and thus properly balanced;
- * all associated costs are taken into account.

In connection with the latter the authority should consider whether its usual practice permits sufficient expenditure on early site investigation to minimise the risk of subsequent abandonment of the scheme or substantial cost increases.

In addition the authority must keep under review the relationship between the current capital cost and the future revenue consequences of its development programme.

2.4 COMPILING THE CAPITAL PROGRAMME

Corporate good practice in compiling the capital programme will be evident in effective inter-disciplinary liaison. The authority should evaluate its procedures in this light, in particular considering whether its circumstances justify (or demand) such arrangements as:

- (i) a "Capital Programme Group", comprising senior officers from all relevant departments, briefed to
 - * identify needs,
 - * appraise feasible responses,
 - * propose possible projects;
- (ii) "Programme Area Teams", on a similar basis, but each dealing with one major area of expenditure.

2.5 FORMAT OF THE CAPITAL PROGRAMME

The published capital programme must provide a clear statement of the authority's commitments and intentions. To this end the authority should consider whether or not:

- (i) the time period covered is adequate (this is unlikely if less than four years);
- (ii) the degree of commitment to proposed expenditure is made clear, by way of a classification such as
 - * base programme - in hand, or starting in current year,
 - * starts list - starting next year,
 - * design list - starting thereafter, but requiring design work or other commitment in current year,
 - * preliminary list - tentative inclusions for feasibility study only.

2.6 IMPLEMENTATION

The arrangements of the authority should not only result in the effective management of individual projects, as set out in following sections, but also:

- * enable it to maintain an overview of capital expenditure as a whole;
- * facilitate strategic responses to over - or under-spending.

The authority should accordingly consider the need for further inter-disciplinary liaison in support of the co-ordinating role of the management team of chief officers (for example, in "Programme Implementation Groups" as discussed in section 4 below).



3 RESPONSIBILITY FOR CONSTRUCTION PROJECTS

3.1 ESSENTIAL ROLES

The authority's arrangements should recognize the distinctive and essential roles of the three principal parties involved in traditional construction contracts, namely:

- * the Client, who orders and pays for the work,
- * the Design Team, who design and supervise the work on behalf of the Client,
- * the Contractor, who undertakes the work.

3.2 FULFILMENT OF THE CLIENT ROLE

The authority's procedures must be directed towards a proper fulfilment of the client role, at two levels:

- (i) member level, primarily in deciding strategic policy objectives, but also, in the context of individual projects
 - * taking all significant decisions on expenditure,
 - * dealing with exceptional problems,
 - * ensuring that progress and performance are properly monitored;
- (ii) officer level, where a number of disciplines, as well as the "client department", will have a contribution to make.

3.3 THE ROLE OF THE AUDITOR

The role of the internal auditor must also be clearly established, enabling him, on an independent basis:

- (i) thoroughly to investigate actual practice in the light of existing procedural requirements, and -
- (ii) to comment upon both.

In particular, recognized procedures for audit involvement should be consistent with current CIPFA recommendations.

The written procedural regulations of the authority must provide an adequate framework of reference for the activity of all involved in the compilation and implementation of the capital programme. In particular, they should:

- * define the freedom at successive levels to take decisions without reference to higher authority,
- * require that all items properly the subject of members' attention are brought before the appropriate committee,
- * represent a reasonable balance between ensuring demonstrable public accountability and providing the opportunity to exercise responsible commercial judgements.

4 MANAGING THE DEVELOPMENT PROCESS

4.1 MANAGEMENT OF INDIVIDUAL PROJECTS

The effective management of individual construction projects is a vital factor in the optimum realisation of the authority's objectives, as expressed in the capital programme.

To this end, the procedures of the authority must reflect corporate working, at the level of both:

- (i) executive action in initiating and co-ordinating the necessary contributions from all the relevant departments and professions, and
- (ii) overall monitoring and supervision, successively at officer level and member level.

4.2 EXECUTIVE ACTION

The essential principles are that:

- * responsibility for action is clearly located, and carries sufficient authority for its discharge, and
- * actions are co-ordinated.

These may be realised by such arrangements as the following:

- (i) One person is recognized as the "nominated project officer", having overall responsibility for getting the project built. This will frequently be a technical officer; the leader of the design team will in any event co-ordinate the project in relation to its design and construction, and could with advantage oversee other post-contract activities. However, he is not necessarily best placed to oversee all pre-contract activities.

In particular, a large capital programme is likely to require a specialist project co-ordination section, responsible for project co-ordination up to tender stage.

The primary qualification for the position of nominated project officer is the right personal qualities and skills: it should therefore be an open post.

- (ii) For the co-ordination of a large project, an officer working party is formed. This should:
 - * be led by the nominated project officer;
 - * be fully inter-disciplinary;
 - * comprise officers actively involved;
 - * be serviced with basic administrative disciplines.

4.3 MONITORING AND CONTROL AT OFFICER LEVEL

The procedures of the authority must provide for effective and continuous monitoring and control at officer level.

One practical means to this end is the formation of "control" or "Programme Implementation Groups", briefed to:

- * monitor progress and expenditure;
- * identify and discuss all significant problems;
- * submit recommendations to the chief officers' management team, or direct to committee.

Such groups should:

- * comprise senior officers (not necessarily first tier);
- * be led by a senior officer nominated by the Chief Executive;
- * be responsible for one or more of the principal categories of the capital programme.

The demands of an exceptional contract could effectively be met by the appointment of an appropriately qualified project manager.

4.4 MONITORING AND CONTROL AT COMMITTEE LEVEL

4.4.1 Committee structure

Effective control at committee level may require special arrangements, for example:

- * a large scheme drawing funds from the vote of more than one committee, or of an exceptional nature, could justify the formation of a special sub-committee of the main resources committee, with delegated powers to act as immediate "client". If relevant, representation should be drawn from all the spending committees involved.
- * a committee with a large capital programme should consider the formation of its own special "development" sub-committee, with similar powers.

4.4.2 Reports to committee

Factual reports to committee may be required regarding successive key stages in the development process, as noted in following sections.

In addition the committee should monitor significant projects by means of progress reports submitted either:

- (i) on an "exception" basis, that is, regarding significant slippage only, or
- (ii) in summary form, preferably in an agreed tabulated format. (See example in Appendix 1)

An alternative means of control could be by random "spot check" reports on selected projects, or particular aspects of the development process.

Minor works could be reported on an aggregated basis.

4.5

THE PROJECT PROGRAMME

A comprehensive programme is an essential tool for the management of all but minor construction projects through the pre-contract stages. For it to be an effective instrument, consideration should be given to the following aspects.

- (i) Scope: all relevant activities should be included. (See check list in Appendix 2)
- (ii) Format: the representation of the programme will be related to the complexity of the contract, for example, by means of:
 - * a schedule of key dates,
 - * a bar chart,
 - * a critical path network.
- (iii) Compilation and approval: responsibility would be as follows:
 - * compilation by officers concerned, primarily the nominated project officer;
 - * approval by relevant Programme Implementation Group (or equivalent);
 - * for significant projects, approval in outline by committee.
- (iv) Distribution: depending on the significance of the project, the programme, or an abstract of key dates, should be circulated to:
 - * all disciplines involved,
 - * relevant central government departments.
- (v) Programme constraints: key issues should be highlighted in submitting the programme, including the following:
 - * the essential time required for the proper development of the design;
 - * the heavy potential penalties involved in a premature start of construction.
- (vi) Readiness to tender: a final check should be required, prior to seeking tenders, that all activities prerequisite to a successful contract have been completed. (See check list in Appendix 3).

On this basis, the nominated project officer should declare the project ready for tender; for significant projects, this should be formalised by signature of a "certificate of readiness", qualified if necessary.

5 THE BASIS OF THE CONTRACT

5.1 TRADITIONAL CONTRACTS

5.1.1 Contract documentation

The documentation forming the legal basis of the contract will normally comprise the appropriate standard form (see section 5.4 below), together with a description of the contract works conveyed by (as may be appropriate):

- * drawings,
- * Bill of Quantities,
- * specification.

Work on site should not normally be permitted to proceed without both:

- * the contract being signed, and
- * all the necessary information being available.

Exceptions to the above should require specific approval at the level of chief technical officer or Programme Implementation Group.

5.1.2 Basis of payment

The basis of payment will be related to the nature of the project, in particular the extent to which the works can be designed prior to tender. The principal categories of contract are:

- * "lump sum" - based on a single figure for the whole of the works, nominally fully designed at tender stage, as for most building contracts;
- * "remeasurement" - based on schedules of rates for work that cannot be fully measured at the tender stage, as in many civil engineering projects;
- * "prime cost + fee" - based on actual cost to the contractor, plus a management fee, for works that cannot be practicably measured on completion.

Careful consideration must be given to the selection and implementation of the most appropriate arrangement (see section 5.5 below). In particular, if a lump sum contract is contemplated, the works must be sufficiently fully designed for that purpose.

5.1.3 Variation of price

It is normal practice for prices on all contracts of over about one year's duration to be adjustable in line with inflation.

5.1.4 Grouped and term contracts

In appropriate circumstances, typically for a series of small but similar jobs, as in housing estates modernisation, it is possible to tie successive projects together, in a linked contractual arrangement. Examples include:

- * Continuation contract - based on prices for a similar, recent contract;
- * Serial contract - one of a series based on unit prices quoted for a defined programme of work;
- * Term contract - a single contract based on unit prices applied to work becoming available in successive locations.

5.1.5 Phasing

The authority should consider designing and inviting tenders for large contracts on the basis of completing the project in defined phases, in order to avoid the problems, especially in commissioning and maintaining services, which may arise if phased handover is left to the discretion of the contractor.

In the case of very large contracts, consideration should not only be given to phasing, but also to dividing the job into a series of discrete contracts.

5.2 DESIGN AND BUILD CONTRACTS

"Design and build" implies any contractual arrangement whereby the contractor makes a major contribution to design.

A number of reports have identified potential advantages in:

- * access to contractors' skills at an early stage,
- * reduced development timescale,
- * competitive rates,
- * reduced documentation,
- * lower incidence of variations, nominations and claims.

Such contracts could be considered particularly in such circumstances as:

- * where the client's needs can be satisfied by standard buildings or components (as in timber-framed housing), and competent contractors with suitable systems are available;
- * contracts requiring a specialist firm with particular skills and experience.

However, in making use of design and build contracts, the authority must take particular care to :

- (i) satisfy the demands of public accountability, and
- (ii) safeguard its interests, particularly by retaining professional services in
 - * agreeing the brief,
 - * examining tenders, especially design aspects,
 - * preparing documentation,
 - * supervising work on site,
 - * providing cost advisory services.

5.3 MANAGEMENT CONTRACTS

The essential feature of management contracts is that the contractor is appointed on a fee basis at an early stage, joining with the traditional design team to form an integrated project team. The contractor's functions are then :

- * to manage the project from initial design proposal stage onward;
- * (normally) to provide common user plant, site welfare services, administration, etc.
- * but not to undertake any construction which is let out in work elements to subcontractors, by competitive tender.

The advantages claimed for management contracting are :

- * an input of management skills and contracting experience into the project team;
- * an early start on construction, without the disadvantages for the client thereby entailed in traditional contracts;
- * value for money, derived from competition for discrete work elements.

5.4 STANDARD FORMS OF CONTRACT

A number of nationally-used standard forms of contract are available to define the respective duties of the contracting parties.

Although the standard forms are subject to some criticism, their use should provide the benefits of commonly accepted interpretations and bases of understanding. They should not normally be amended, except as provided for within the form; if amendments are considered essential, they should be included only with the benefit of expert legal advice. (Particular requirements relating to individual contracts can normally be accommodated in other documents, such as the Bills of Quantities).

5.5 CHOICE OF CONTRACTUAL ARRANGEMENT

The choice of the contractual arrangement for each project must be made with care. It would normally be a matter for the professional judgement of the technical officers of the authority, with a decision at the level of chief officer, or Programme Implementation Group. Arrangements for important projects should be approved by committee.

5.6 LIQUIDATED DAMAGES

The level of liquidated and ascertained damages must represent a genuine estimate of the loss that would be suffered by the client in the event of the contractor failing to complete on time; they should not be subject to arbitrary increase and decrease, nor waived without due cause.

Calculation should follow the recommendations of the Society of Chief Quantity Surveyors in Local Government in their report published in May 1976 and revised 1981 (Bibliography reference 10).

5.7 PERFORMANCE BONDS

The authority should avoid the need for performance bonds taken out against failure by the contractor satisfactorily to complete the contract, by means of :

- * thorough financial vetting procedures prior to an invitation to tender;
- * other checks as necessary.

6 THE DESIGN TEAM

6.1 THE ROLE OF THE DESIGN TEAM

The design team has a key role in acting as the client's agent in dealing with the contractor, in designing the project and administering the contract, including its financial aspects.

A key feature of this role is the maintenance of a strictly impartial point of view between client and contractor.

6.2 DIRECTION OF THE DESIGN TEAM

6.2.1 Leadership

According to the nature of the project, one of the professions will normally exercise leadership of the team, i.e. :

- * an architect on building projects;
- * an engineer on contracts primarily of an engineering nature;
- * a building surveyor on some rehabilitation projects.

In normal circumstances, the leading profession :

- * is appointed first, and advises on the need for other skills;
- * will co-ordinate the activity of the other members of the team, but
- * will not necessarily be responsible for their work in technical terms (see 6.2.2 below).

6.2.2 Internal relationships

Two approaches are possible to the organisation of the design team, each with potential advantages, namely :

- (i) engagement of an integrated team, whereby a single organisation takes sole responsibility. (This option is normally available only from a comprehensive in-house technical service, but could be available from a multi-disciplinary consultancy, or if the lead consultant was prepared to engage other disciplines on his own account);
- (ii) individual appointment of the necessary professions, each with its own professional responsibility direct to the client.

6.2.3 The role of the client

While respecting the position of the leader of the team, the client should maintain an overview of the situation, by means of meetings and reports at appropriate intervals or key stages, in order to :

- * monitor the performance of the design team;
- * ensure the fulfilment of the client's own obligations (see sections 7 and 8 below).

As discussed in section 4 above, this client role will be fulfilled by the chief technical officer, or relevant Programme Implementation Group, referring significant problems and decisions to committee.

6.3 IN-HOUSE APPOINTMENTS

6.3.1 Professional obligations

The professional responsibilities of in-house disciplines in contracts under the standard forms are exactly the same as those of consultants in private practice; in particular, notwithstanding that they may be responsible for aspects of the client role (see section 6.3.3 below) they must act strictly impartially between client and contractor.

6.3.2 Appointment to individual projects

The range and strength of the in-house team is a matter of authority policy, but for practical purposes it would be limited to matching the base load, which it would normally undertake as a matter of course.

It is the responsibility of the relevant chief officer to foresee the need for work to be placed outside, and identify appropriate projects. However, the use of in-house disciplines on major projects should be justified to and approved by committee on the grounds of adequate resources and experience being available.

6.3.3 Extent of duties

The functions of in-house technical departments normally extend beyond those entrusted to the design team.

In particular, they will fulfil some aspects of the client role, for example :

- * in co-ordinating activities ancillary to the construction contract;
- * in briefing and overseeing external consultants.

6.3.4 Naming in the contract

Naming the relevant chief professional officer (for example, the chief architect, or chief quantity surveyor) in the contract documents will:

- (i) place professional responsibility where it naturally lies;
- (ii) enable the departmental head to fulfil more of a co-ordinating and overseeing role.

(This should be subject to proper provision of professional indemnity insurance by the authority).

6.4 EXTERNAL CONSULTANTS

6.4.1 Selection procedures

In selecting external consultants, the objectives of the authority should be to :

- * satisfy the demands of public accountability;
- * obtain competent professional services, matched to the needs of particular projects;
- * achieve the right balance between the respective advantages of using familiar firms, and the possible introduction of fresh ideas.

An authority with work regularly put out to external consultants should consider making appointments from a standing list, which should be :

- * categorised according to the capacity and experience of the firm;
- * reviewed at intervals not exceeding four years, by a panel drawn from technical and "client" departments, and relevant committees.

6.4.2 Selection criteria

The authority should identify a comprehensive list of criteria for the selection of consultants (see check list in Appendix 4).

6.4.3 Status

External consultants may be appointed on one of two bases, each with potential benefits and drawbacks, that is :

- (i) as "subcontractors" to an in-house team. This arrangement was deprecated in the Wood Report (Bibliography reference 3) but is preferred by some chief technical officers as it permits the offer of a comprehensive service, with sole responsibility (see section 6.2.2 above)
- (ii) as members of the design team in their own right, that is :
 - * with full professional responsibility,
 - * named in the contract documents,
 - * with direct access to committee in appropriate circumstances.

6.4.4 Terms of engagement

External consultants should be appointed only on the basis of written terms of engagement, setting out clearly and unambiguously both the service to be provided and the remuneration for it. These should normally be based on the standard terms published by the relevant professional institutions.

A sample check list of items to be covered in the letter of appointment is included in Appendix 5.

7 THE BRIEF

7.1 OBJECTIVES OF THE BRIEF

The purpose of the brief is to convey to the design team :

- * the wishes and intentions of the client, in particular -
- * the specific objectives of the project, together with -
- * any constraints on the design.

This demands conscientious attention by the client body to clarification of its requirements.

7.2 DEVELOPMENT OF THE BRIEF

For a project of any size or complexity, the final, firm brief is likely to be the product of an evolutionary process. This could include the following :

- * feasibility studies,
- * initial brief to design team,
- * exploration by design team of means of satisfying the client's requirements within the proposed budget,
- * modification or clarification of the details of the client's requirements (not implying avoidable changes of mind),
- * reaction from statutory authorities and other groups,
- * selection of outline scheme from available options,
- * agreement of final brief on basis of the preferred outline.

Such a process will be expensive, but also cost effective if it leads to firm client decisions, and thus avoids the penalties attached to late changes in the brief.

7.3 CONTENTS OF THE BRIEF

7.3.1 Scope and detail

The scope and detail of the brief will be related primarily to the size and complexity of the project. The key criterion is that it should not leave the design team to make unnecessary assumptions.

7.3.2 Essential information

Although agreement of the final brief is a collaborative process between client and design team, the authority as part of its client role must ensure that all the necessary information is conveyed to the design team.

To this end, the authority should consider the use of comprehensive check lists to help ensure that all the relevant issues are taken into consideration. An outline check list of the essential points of information relating to a building contract is included in Appendix 6.

7.3.3 Flexibility in use

Flexibility in use must be a primary objective made clear at briefing stage in any building project where there may be eventual, unavoidable modification of the client's requirements.

7.4 STANDARD BRIEFS

The authority should consider the use of standard briefs relating to any repetitive structure or elements, in order to:

- * simplify compilation of the brief for individual projects;
- * facilitate standardisation of key elements, with a view to ease of maintenance.

All standard briefs should be subject to regular review in the light of feedback.

7.5 PROCEDURES

The authority should judge its procedures for fulfilling the client role in compiling the brief by the following criteria:

- * that the brief is based on all relevant considerations, especially user needs;
- * that it represents a reasonable balance between any competing considerations;
- * that the necessary information is available when required by the timetable for compiling the brief.

Depending on the structure of the authority and the nature of the project, practical responsibility for the client role could belong to:

- * the chief technical officer, in collaboration with user departments;
- * the Programme Area Teams;
- * an ad hoc officer working party.

The brief for major projects should be subject to committee approval.

8 PROCEDURES TO TENDER STAGE

8.1 EVOLUTION OF THE DESIGN

On the basis of the information supplied in the (initial) brief, the design team may proceed with developing the design to the following key stages:

- (i) sketch scheme design, at which point drawings and specification are sufficiently developed to indicate spatial arrangements, materials and appearance, and the design brief may be finalised;
- (ii) tender stage, at which the design is sufficiently fully developed in relation to the type of contract envisaged, to invite bids from contractors.

8.2 THE CLIENT'S ROLE

8.2.1 Client responsibilities

The client has an essential role in responding to the design team in:

- * providing further information as required;
- * taking decisions on questions arising;
- * reviewing and approving design proposals at sketch scheme stage.

8.2.2 Officer level

The considerations relating to practical fulfilment of the client role at officer level will be comparable to those outlined in connection with the brief (see section 7.5 above).

The user department will have an important role, but other departments could also have significant contributions to make. The arrangements of the authority should provide for these to be drawn together; for example, the client's response could be:

- * overseen by the chief technical officer, or
- * discussed and agreed in the Programme Area Teams, and
- * monitored in programme terms by the Programme Implementation Group.

8.2.3 Committee level

As discussed in 8.3 below, projects should normally be scrutinised and approved by committee at sketch scheme design stage.

8.3 APPROVAL OF THE BASIC DESIGN

The design team's proposals for the essential features of the scheme should be considered in detail by the client at sketch scheme stage. Final approval should be given at committee level, on the basis of a comprehensive report (see check-list in Appendix 7).

This approval procedure will provide:

- * confirmation of the phase of the project in the capital programme;
- * a definitive yardstick against which the project can subsequently be measured;
- * a clear framework of reference in which the design can be developed.

This is a key event, in that subsequently:

- (i) the design team is able to proceed with detailed design, to the point where tenders are sought;
- (ii) the client authority must not contemplate any but totally unavoidable changes in its requirements.

8.4 COST PLANNING

"Cost planning" is the process of defining the optimum apportionment of the total budget between the component elements of the project. It is essential to the proper development of the design in that it:

- * facilitates the thorough integration of design and cost considerations;
- * obliges the client to define priorities at an early stage;
- * minimises the risk of the delay caused by tenders exceeding budget.

It should be undertaken on a formal basis for all significant projects, and for this purpose it is essential that the quantity surveyor on a building project is appointed at the outset.

9 SELECTION OF THE CONTRACTOR

9.1 SELECTION PROCEDURE

The choice of procedure must be made in the light of the circumstances of the project concerned, to achieve:

- * demonstrable public accountability;
- * optimum value for money.

For all significant projects, the proposed method of selection should be approved by committee.

9.2 BASIS OF COMPETITION

The need for public accountability is usually met by some form of price competition between contractors. It is most easily demonstrated by lump sum tenders, but other bases of competition may be more effective in achieving value for money, or may be demanded by particular circumstances. In some circumstances competition as such may not be feasible.

The internal regulations should therefore permit a range of approaches, subject to stipulated safeguards.

9.3 OPEN AND SELECT COMPETITION

Open (that is, unrestricted) competition is now generally deprecated, and tenders are normally invited from a limited number of contractors selected on the basis of:

- * financial stability,
- * capability in relation to the proposed project,
- * basic integrity.

Contractors should be included on such a select list only upon possession of all relevant information about the firm. (Extensive check-lists of general application are included in Annex 8A of the DOE Code of Procedures for Local Authority Housebuilding - Bibliography reference 9).

Selection of contractors in a regular programme of work would be facilitated by compilation of a (categorised) standing list from which contractors could be short-listed (in a fair manner) for particular projects. A standing list must be:

- * continuously updated;
- * subject to complete review at intervals of between one and two years.

In general, all procedures should follow the National Joint Consultative Committee (NJCC) Code of Procedure for Single Stage Selective Tendering 1977 (Bibliography reference 13).

The key features of two-stage tendering are that, successively:

- * the contractor is selected at an earlier stage than normal, tendering on an outline design and approximate quantities;
- * through a letter of intent, the contractor contributes to the detailed design (although the design team retains full responsibility);
- * firm bills are prepared, and priced by negotiation, to form the basis of the contract.

Detailed procedures are described in Annex 6C of the DOE's Code of Procedures for Local Authority Housebuilding (Bibliography reference 9).

Advantages have been claimed for the approach, including:

- * an earlier start, if work commences in phases, as design work is completed;
- * a lower cost of variations.

However, these can be negated if the method is misapplied, for example in obtaining a premature start ahead of progress on design.

The approach is likely to be of particular value if a building system such as timber frame or "CLASP" is to be employed.

NEGOTIATION

Negotiation does not in itself embody the principle of competition but may be appropriate in certain circumstances, for example:

- * if significant time can be saved in the pre-contract phase;
- * if market conditions do not produce competitive tenders.

Negotiation should therefore be admissible under the internal regulations, but subject in all cases to committee approval and to practical safeguards, examples of which are listed in Appendix 8.

DESIGN AND BUILD, AND MANAGEMENT CONTRACTS

The crucial feature of selecting contractors for design and build and management contracts is that an assessment is needed as much in relation to tenderers' technical capabilities as to price considerations, as follows:

- (i) for design and build contracts, it is necessary to evaluate the quality of the design, with the benefit of appropriate professional advice;

- (ii) for management contracts the quality of the management skills on offer must be assessed.

The selection should be undertaken:

- * from a list of three or four contractors only, in view of the high tendering costs;
- * on the basis of a full presentation of the contractor's proposals;
- * by a special selection panel including all the necessary technical disciplines at senior officer level, together with representation at member level;
- * subject ultimately to committee approval.

9.7 TENDER PROCEDURES

The practical procedures for contractor selection should be described in detail in the internal regulations, with the following objectives:

- * guarding against malpractice;
- * efficiency in distributing the information to all concerned.

9.7.1 Instructions to tenderers

A typical list of items is included in Appendix 9.

9.7.2 Receipt, custody and opening

Appropriate procedures would include:

- * nomination of a chief officer to receive and keep tenders;
- * opening all tenders at the same time, within two working days of receipt, by officers from two nominated departments;
- * compiling a schedule of tenders at the time of opening, for circulation to all concerned;
- * datestamping, signing and witnessing all documents.

In addition, the internal regulations should describe the authority's practice in relation to:

- * late bids;
- * requests for extension of tender period;
- * informing tenderers as soon as possible of their standing.

9.7.3 Qualified tenders

In appropriate circumstances, alternative specifications might be invited in the tender documents (for example, in two-stage tendering), but otherwise, qualified tenders should not be admitted, thus preserving the principle of all tenderers bidding on an identical basis.

9.7.4 Communication with tenderers

Senior professionals should be permitted to communicate with tenderers but only:

- * to clarify technical or contractual issues;
- * in strict confidence;
- * with the keeping of detailed records.

9.7.5 Evaluation

Assessment of tenders should include:

- * check for arithmetical errors and omissions (which tenderers should normally be given the opportunity to correct);
- * examination of unit rates to ensure they are reasonably balanced;
- * evaluation of the implications of the time period quoted (which should be a matter of tenderers' discretion in appropriate circumstances).

9.7.6 Acceptance

The procedures of the authority should provide for:

- * delegated authority to accept the lowest tender if within budget;
- * a response in the event of the lowest tender exceeding budget;
- * prompt notification to tenderers of their standing.

9.7.7 Letting contracts

The procedures of the authority should result in contracts being formally signed and work started on site as soon as possible, in order to avoid:

- * difficulties with cash limits;
- * extra costs arising from fluctuations arrangements.

Elements of work in a building contract to be undertaken by a specialist, and to be the subject of a "nomination", should be decided at an early stage, to allow the relevant "Prime Cost sums" in the tender to be based on proper quotations.

Procedures for obtaining these quotations should be comparable to and as rigorous as those for selecting the main contractor.

10 AUTHORISATION OF EXPENDITURE

10.1 APPROVAL OF BUDGET

Although, at the start of work on site, the contract sum represents the contractual commitment of the client to pay for the construction, the total figure may subsequently be amended on account of:

- * fluctuations in price,
- * variations,
- * remeasurement of provisional items,
- * "claims" by the contractor.

This implies the need for cost control during the contract phase. In particular, although the primary initiative for cost control may in effect be delegated to the design team, there must be procedures whereby the approval of the client to changes in the budget may be sought and granted.

10.2 FLUCTUATIONS

Variations of price in line with inflation are an inescapable commitment under the "fluctuations" clauses of the contract (when applicable). Thus the client will normally have no option but to increase the budget. The only exceptions will occur if it is possible to off-set the increase with savings in the extent or specification of the works; however, this is likely to be both difficult, and risky in terms of subsequent problems.

It is essential that both actual and forecast fluctuations costs are reported during the construction phase:

- * separately from other costs;
- * as realistically as possible, given agreed assumptions;
- * against an estimate of total fluctuations included in the scheme approval.

10.3 VARIATIONS

The standard forms of contract empower the architect or engineer to vary the works envisaged in the contract documents by way of:

- * specific instructions relating to items only provisionally included;
- * other changes in the design, extent or specification of the works.

These could have significant cost consequences, implying the need for the following:

- (i) A clear definition of the freedom of the design team to issue such instructions without prior reference to the client.

This will be influenced by practical considerations such as:

- * client involvement is appropriate only when the realistic exercise of his judgement is possible;
- * procedural delays would carry their own cost penalties.

The foregoing imply giving discretion to the design team to instruct variations that are:

- * unavoidable and essential for the contract to proceed;
- * of a minor, day-to-day nature, with minor cost implications;
- * urgently required.

Otherwise all variations that are significant in terms of design or cost should receive the prior approval of the client.

- (ii) A procedure for the client to give approval to proposed variations

A sample form that could be submitted by the design team is illustrated in Appendix 10.

Prerequisites for the proper functioning of such a procedure include:

- * competent professional practice in the design team, in identifying both the cost of a proposed variation and the existing budget allowance;
- * sufficiently full development of the design at the start of work on site (cost control measures are otherwise liable to total break-down).

CONTINGENCY

The inclusion of a contingency sum within the budget would provide a fund for the design team to cover unforeseen minor variations. However, recourse to the client for additional budget would still be necessary in the event of:

- * major variations that would exceed the contingency sum;
- * the expiry of the contingency budget.

Use by the design team of accrued savings as a further, de facto contingency sum should be agreed with the client.

10.5 CLAIMS

"Claims" by the contractor for additional payments by way of "loss and expense" in connection with delays or variations become a contractual liability once properly adjudicated by the design team. The client is thus bound to approve the necessary budget in this event.

10.6 ARRANGEMENTS FOR FULFILMENT OF THE CLIENT ROLE

Detailed arrangements for fulfilment of the client role will depend on the nature of the authority and the project in hand, but some general comments apply.

Ultimate responsibility will lie at member level, exercised through the client committee. However, day-to-day responsibility is likely to be delegated to:

- * the head of the technical department, or
- * a corporate team of senior officers, such as the relevant Programme Implementation Group.

Nevertheless, the client committee should reserve to itself the opportunity to take all significant decisions, and to that end should make clear its policies and if appropriate define specific criteria.

In addition, there should be "urgent business" arrangements whereby, when necessary, the chairman and one other member could signify their approval pending the next cyclical meeting of the committee.

11 MONITORING AND REPORTING OF PROGRESS

11.1 THE NEED FOR ADEQUATE MONITORING

Careful monitoring of progress during the construction phase is essential from the point of view of the client, in relation to:

- * planning around the projected completion date,
- * the purposes of cash flow predictions.

For this service the client would normally look to the design team, who would need to monitor the contract also for the purposes of awarding appropriate extensions of time.

11.2 MONITORING TECHNIQUE

The following comments apply primarily to projects of a significant size.

11.2.1 Programme

Monitoring must be undertaken against a programme adequate for the purpose. This could be supplied only by the contractor; to do so might be a formal obligation under one of the clauses of the contract, otherwise such a requirement should be stated elsewhere in the contract documents.

11.2.2 Progress checks

The contractor would be expected to report his progress at regular meetings with the design team; however, the latter should check the information or make an independent assessment, through the clerk of works.

11.2.3 Evaluation of overall progress

Statements of overall progress should be based on realistic assessment of critical activities, and not potentially misleading overall averages.

11.2.4 Trends

Predictions regarding the completion date should be based on forward trends, not simply the current progress position.

11.2.5 Interim valuations as a guide to progress

The trend in interim valuations can provide an indicator of overall progress when plotted against expected expenditure (excluding fluctuations).

11.3 PROGRESS REVIEWS AND RECORDS

On all significant projects the design team should record a regular assessment of progress, to provide:

- * a set of reliable historical references,
- * a vehicle to convey information to senior officer level in the authority,
- * a basis for reports to committee.

Statements should be compiled monthly (or up to quarterly) at the level of project architect/engineer, for consideration at the Programme Implementation Group (or equivalent).

A possible format is illustrated in Appendix 11.

11.4 PROGRESS REPORTS TO COMMITTEE

Practical considerations are likely to dictate reporting to committee on an exception basis, such that only significant items are brought to their attention.

Although the definition of "significant" would often be a matter for the judgement of (and justification by) the officers of the authority, on an important project the client committee should approve basic reporting criteria to ensure that no items of concern escape their attention.

Possible arrangements include:

- (i) Reporting significant instances of poor progress, for example, as defined in the form illustrated in Appendix 11, that is, in cases where:
 - * the trend was unsatisfactory, with time lost consistently over (say) six months;
 - * there was excessive cumulative loss of time (greater than two months for every twelve in the contract period);
 - * the completion date had particular significance.
- (ii) Reporting all contracts as completion became due, for example, employing the form illustrated in Appendix 1, and highlighting contracts over-running their time.

This would permit the client committee to select exceptional cases for closer study, but in itself it would not:

- * trigger an opportunity for committee review until late in the contract;
- * give advance warning of a late completion.

11.5 CONTRACTUALLY SENSITIVE INFORMATION

The design team's deliberations regarding extension of time should be kept strictly confidential. In particular, committee reports should contain no reference to possible awards.

12 MONITORING AND REPORTING OF COSTS

12.1 THE ROLE OF THE DESIGN TEAM

It is the duty of the design team to monitor the financial aspects of the contract, and to take responsibility for the front line of cost control. In particular, the quantity surveyor (or the engineer on most engineering projects) will act as the technical accountant for the project, ie, inter alia to:

- (i) undertake interim valuations to provide a basis for stage payments to the contractor;
- (ii) provide all necessary financial advice to other members of the design team;
- (iii) furnish the Client with the information necessary for his purposes in overall financial management and control.

Item (iii) above is a matter for Client policy and directives, as discussed below.

12.2 INTERNAL FINANCIAL PROCEDURES AND REVIEWS

Factors exactly comparable to those noted in connection with progress monitoring (in section 4.3 above) imply the need for regular cost statements, compiled at project officer level, and circulated for monitoring and information purposes at senior officer level in the authority.

The format, frequency and detail of such statements is a matter of professional judgement in the light of prevailing circumstances. A possible form is illustrated in Appendix 12.

12.3 REPORTS TO COMMITTEE DURING THE CURRENCY OF A CONTRACT

Committee requirements for financial reporting should be clearly defined, covering the following areas.

12.3.1 Information to be provided

The degree of detail that was appropriate would depend on the circumstances of the project. The information included in the financial statement illustrated in Appendix 12 might be regarded as basic for a significant project (if reporting was necessary - see 12.3.4 below).

12.3.2 Prior approval of variations

Reporting arrangements should be consistent with procedures for the prior approval of variations; in particular, the status of variations referred to in the financial reports should be made clear, for example, by cross references to the forms illustrated in Appendix 10.

12.3.3 Contractors' claims

The financial implications of any claims should be reported to committee only upon settlement with the contractor, in order not to prejudice the Client's position.

12.3.4 Exception reporting

As in the case of progress reports (ref. section 4.4 above), practical considerations are likely to suggest the adoption of exception reporting principles, and committee policy on the need to report should be made clear.

Examples of possible specific exception criteria are noted on the form illustrated in Appendix 12.

12.3.5 Format

Primary objectives in relation to the format of the report should include provision of:

- * a clear build-up of the latest forecast final cost,
- * a ready reconciliation with previous reports.

This implies tabulation of the figures (the form illustrated in Appendix 12 could provide a basis) with narrative explanations where necessary.

12.3.6 Frequency

The basic interval should be not longer than quarterly. Exception reports should be submitted as and when necessary.

12.3.7 Presentation

On building contracts, reports should be presented to committee by the quantity surveyor, in consultation with the architect.

12.3.8 Interpretation

In understanding the reports, the committee should recognize that some of the figures either:

- (i) will represent only the best estimate available at the time, or
- (ii) will be based on assumptions (which should be stated).

12.4 REPORTS TO COMMITTEE AT FINAL ACCOUNT STAGE

All contracts should be reported at final account stage, with the following minimum information:

- * contract sum;
- * final account figure net of fluctuations;
- * forecast and actual fluctuations.

12.5 CAPITAL MONITORING

The design team should produce the information required by the chief financial officer for his purposes in cash flow monitoring and forecasting, with a particular view to the authority's obligations under present cash limit controls.

The statement should include:

- (i) contract costs, analysed
 - * according to year of expenditure,
 - * into base date costs and fluctuations;
- (ii) professional fees and/or salaries;
- (iii) direct contracts and post-contract works.

A possible form is illustrated in Appendix 13.

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COMMITTEE:

DATE OF REPORT:

CONTROL OF CAPITAL PROJECTS

PROGRESS REPORTS - PRE-CONTRACT

APPENDIX 1

PROJECT

KEY STAGES

✓ = Completed

N/A = Not applicable

DATE OF
LETTING
CONTRACT

CONTRACTOR

CON-
TRACT
VALUE
£000'sCOMPLETION
DATE

COMMENTS

A

B

C

D

E

F

G

H

I

J

K

L

Prog.

Act.

Prog.

Act.

45

KEY STAGES - CODE:

A Central Government Approval

D Land acquired

G Production drawings

J Start on site

B Site Selection

E Brief to Architect

H Bills of Quantities

K Completion of contract

C Detailed planning permission

F Detail design

I Tender received

L Feed back

CHECK LIST OF ITEMS ON CONTRACT PROGRAMME

- * Public consultation exercise
- * Planning permission
- * Acquisition of land (including compulsory purchase procedures)
- * Road closures
- * Government authorisations
- * Functions of statutory undertakers
- * Appointment of consultants
- * Agreement to brief
- * Development of design (including cost planning exercise)
- * Relocation of residents & businesses
- * Advance ordering of materials
- * Selection and appointment of contractor
- * Construction
- * Fitting out and commissioning

CHECK LIST FOR READINESS TO TENDER

- * The authority has good title to the land upon which the structure is to be built.
- * All necessary approvals have been obtained in respect of town planning, building regulations etc.
- * The design has been sufficiently developed in relation to the form of contract proposed.
- * All the information appropriate to the method of tender is available.
- * Where the contract will be the subject of a government grant, all relevant requirements have been complied with.
- * Wherever possible, tenders for the nominated subcontracts have been received.
- * The contractor can be given possession of the whole site on the due date (unless specific arrangements have been made otherwise).
- * Where appropriate, advance ordering of components has been undertaken, and that the tender documents are compatible with this.

CHECK LIST FOR SELECTION OF EXTERNAL CONSULTANTS

- * Location of operation
- * Staff resources
- * The range and depth of professional skills
- * Previous experience
- * Quality of work
- * Previous performance, in meeting its programme, and in administering and supervising contracts on site

Also, for large or important projects:

- * Existing work-load and future commitments
- * The senior people to be in charge of the project
- * Internal management procedures, particularly in relation to programming the workload, and for collaboration with other members of the team and the client

CHECK LIST FOR LETTER OF APPOINTMENT FOR EXTERNAL CONSULTANTS

- * Identification by date and description of the relevant Institutions' conditions and scale of fees applicable to the appointment
- * Stipulation of category or basis of charging where alternatives occur
- * Interpretation to be placed on conditions or scales in cases of doubt
- * Scope of commission
- * Extent of technical and other responsibilities
- * Compliance with Standing Orders, etc.
- * Requirements for supervision and liaison
- * Sanction and monitoring of variations
- * Cost limits and controls
- * Appointments of and collaboration with other consultants
- * Requirements as to insurance cover
- * Access by officers of the authority to contract records, and handing over same on completion

CHECK LIST OF POINTS OF INFORMATION IN A BUILDING BRIEF

- * The purpose of the project, together with any necessary background information
- * The scope and content of the project, including a schedule of accommodation required
- * A statement of the desired activities and functions to take place in the development
- * A social brief, indicating how and by whom the project is to be used
- * A town planning brief, outlining relevant considerations
- * The expected budget restraints
- * The required timing of the project, and an assessment of the consequences of failure to meet time targets
- * The quality of construction envisaged, and other factors relating to maintenance, and other elements of cost-in-use

CHECK LIST FOR REPORTS AT SKETCH SCHEME DESIGN STAGE

The report from the design team should cover:

- * Fully developed brief
- * Explanation of the scheme
- * Outline drawings and specification
- * Cost plan
- * Future timetable

For purposes of committee consideration the foregoing should be amplified as necessary to cover the following:

- * Background to project
- * Proposed programme
- * Schedule of accommodation (if relevant)
- * Site details
- * Financial implications (both capital cost and annual revenue cost)
- * The implications of a fluctuating price contract
- * Confirmation of justification for the project

PROCEDURAL SAFEGUARDS IN NEGOTIATED TENDERING

- * When circumstances permit, negotiations should be based on some form of initial price competition, as in two-stage tendering or continuation contracts
- * The application of normal cost-control procedures within the design team, with particular reference to the cost plan
- * The negotiations entrusted only to senior staff, whether in-house or consultant
- * Full documentation maintained of all negotiations
- * All negotiated contracts subjected to the scrutiny of a technical panel convened for the purpose, in addition to any procedures undertaken as part of normal internal audit activity

CHECK LIST FOR INSTRUCTIONS TO TENDERERS

- * The form in which tenders must be submitted
- * Return under plain cover
- * The latest date and time for receipt of tenders and delivery address
- * The period for which the tender must remain valid
- * Whether alternative specifications to meet the functional requirements will be considered, and appropriate arrangements in that case
- * Declaration that the tender is bona-fide
- * Performance bonding

PROJECT :	PROJECT No :
REQUEST FOR PRIOR APPROVAL OF VARIATION	Serial No :
<u>Description of proposed variation</u>	
<u>Justification for proposed variation</u>	

	OMIT	ADD	BALANCE
ESTIMATE OF COST (AT BASEDATE PRICE)			
ESTIMATED FLUCTUATIONS ON ABOVE			
TOTAL NET COST IMPLICATION			

LATEST DATE FOR DECISION [TO AVOID DELAY]

APPROVED.....(Authorised signature)

CIRCULATION	Architect/Engineer/QS/Chief Tech.Officer/etc.
-------------	---

PROGRESS ASSESSMENT - CONTRACT PHASE

Client Committee.....	Contract.....
Architect/Engineer.....	Assessment date.....
Contractor.....	Serial No.....

Progress against programme

Programme No.

Coverage

Gain/loss of time last recorded, $\frac{+}{-}$ weeksGain/loss of time since last assessment, ⁺ weeksTotal gain/loss of time to date, ⁺ weeks

Comments :

Completion date

Original contract completion date

Extensions of time previously recorded

Extensions of time since last assessment

Total extensions to date

Current contract completion date

Outstanding claims for extension of time

Forecast completion date : contractor's estimate

```
: design team estimate
```

Comments :

Requirement to report to committee

Loss of time recorded over last six months

Total loss greater than two months in twelve

Completion date now later than.....

Tick

Client Committee.....	Contract.....
Architect/Engineer.....	Statement date.....
Contractor.....	No:

	Omit £	Add £	Total £
CONTRACT SUM			
CONTINGENCY SUM - Omit			
VARIATIONS IMPLEMENTED TO DATE			
Nominated sub-contractors' work			
Measured work			
Daywork			
FORECAST FOR VARIATIONS EXPECTED TO BE IMPLEMENTED			
Nominated sub-contractors' work			
Measured work			
Daywork			
CONTRACTOR'S CLAIMS AGREED TO DATE			
FORECAST FINAL ACCOUNT SUM (excl. fluctuations)			
FLUCTUATIONS (Original forecast £.....)			
Increases to date			
Forecast for remainder of contract			
FORECAST TOTAL COST			

	Fluctuations	Variations	Total E
ADDITIONAL AUTHORISED EXPENDITURE : To date (Minute No..)			
: To be authorised			
	Contract sum		
	Forecast total cost		

REQUIREMENT TO REPORT TO COMMITTEE	
Total net cost variations exceeds 10% of contract sum/£.....	Tick
Additional expenditure required to be authorised	
Other reasons (poor progress/.....)	

PAYMENT TO CONTRACTOR CERTIFIED TO DATE £.....

Contract.....
 Statement date..... No:
 Client Committee.....
 Architect/Engineer.....
 Contractor.....

CATEGORY \ COSTS (£000's)	Previous financial year	Current financial year		F/cast next financial year	F/cast bal. following years	FORECAST TOTAL COSTS	EXPENDITURE AUTHORISED BY COMMITTEE
		To date	F/cast bal.				
Cost of works (net of fluctuations)							
Fluctuations							
Provision for contractor's claims							
Retentions - deductions + release							
Total contract costs							
Design team fees							
Site supervision costs							
Direct contracts							
Total project costs							

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The following individuals provided particular assistance by commenting on successive drafts and providing other useful material. (Inclusion in this list does not imply agreement in all respects with this report in its published form).

- * M.H.Kenchington, Dip.Arch., RIBA; County Architect, County of Avon.
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- * R.F.Lear, FRICS; retired from Dept. of Architecture and Town Planning, City of Coventry.
- * D.G.Manning, FRICS; Chief Building Economist, Dept. of Architecture and Civic Design, City of Portsmouth.
- * M.J.L.Nelson, C.Eng., MICE, MIMunE., ACI Arb; City Engineers' Dept., City of Southampton.
- * V.Short, Dip.Arch.(Leeds), RIBA, Dip TP (Dist) Manchester, ARIAS; County Architect, North Yorkshire County Council.
- * D.H.White, ARIBA, MBIM; Borough Architect, Luton Borough Council.
- * D.A.Wroe, BSc.Tech., C.Eng; Director of Works, Metropolitan Borough of Stockport.

CONTROL OF CAPITAL PROJECTS

Part Two Pre-Contract Phase

October 1982

PART TWO - PRE-CONTRACT PHASE

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1. INTRODUCTION

1.1 SCOPE OF PART TWO

This study followed an earlier report (Control of Capital Projects: Contract Phase) - prepared by the National Building Agency for the Chief Inspector of Audit in December 1981 and reproduced as Part Three of this report. It is intended to be complementary to the earlier report in that it concentrates upon events preceding the signing of a contract for carrying out construction work: taken together, it is hoped that the two studies will provide an informative guide through the complete construction process for those elected Members of local authorities who find themselves responsible for the formulation and/or implementation of policy relating to the control of construction projects.

These studies are concerned with issues of policy rather than the details of professional practice, and are intended to be of value primarily to the Members of the authority. However, for the sake of clarity and completeness, where appropriate the role of the professional officers and/or consultants is discussed. For a definitive statement on the responsibilities of professional and technical officers and consultants engaged on contracts, reference should be made to the tripartite statement issued by the CIPFA, RICS and SCALA joint working party referred to in section 1.2 below (Bibliography reference 1).

1.2 BACKGROUND AND METHOD OF WORKING

In its work on post-contract procedures referred to above, the NBA drew initially on research carried out with the agreement and co-operation of three local authorities, from which a draft report was prepared. This was subsequently augmented, from March 1981 onwards, by consultation with representatives of the Chartered Institute of Public Finance and Accountancy (CIPFA), the Royal Institution of Chartered Surveyors (RICS) and The Society of Chief Architects of Local Authorities (SCALA) who had formed a joint working party to consider the financial control of building contracts let by local authorities. Consultations were also held with the other principal professional bodies concerned with building contracts and the Department of the Environment (Housing B6 Division).

The project in connection with pre-contract procedures was initiated by the Chief Inspector of Audit in March 1981 and thus began with the considerable advantage to the authors of established and responsive contacts with the bodies already mentioned. In the first instance a draft was prepared based on desk research and initial consultations were held with individual officers representing both their profession and their own local authority. The authorities thus represented were :

- * County of Avon
- * Luton Borough Council
- * City of Portsmouth
- * City of Southampton
- * Metropolitan Borough of Stockport
- * North Yorkshire County Council

In addition, comments and information were provided by the Department of the Environment (Housing B6 Division) and MDA Monk and Dunstone, Mahon and Scaers, Chartered Quantity Surveyors; reference has also been made to the internal regulations and practice notes of East Sussex County Council and the London Borough of Wandsworth, which have been found particularly helpful.

A firm draft was prepared on the basis of these consultations and circulated to the following :-

- * Chartered Institute of Public Finance & Accountancy (CIPFA)
- * Royal Institution of Chartered Surveyors (RICS)
- * Society of Chief Architects of Local Authorities (SCALA)
- * Institution of Municipal Engineers (IMun.E)
- * Institution of Civil Engineers (ICE)
- * District Auditors' Society
- * Department of the Environment (Housing B6 Division)

The final draft was prepared after a further round of informal consultation. It should be noted that reference to the above bodies does not imply their full and unqualified endorsement of the document in its published form.

1.3 AUTHORSHIP

This project was awarded initially to the Management Consultancy Division of the National Building Agency, but upon the decision of the Secretary of State for the Environment to close the NBA, completion of the assignment has been undertaken, with effect from February 1982, by NBA Construction Consultants. This firm was formed from the Management Consultancy Division of the NBA and continuity of personnel involved in this project has been maintained throughout.

The report has been written by A. Jackson-Robbins, B.Sc., MCIQB, under the general direction of S.M. Bradburn, FCIOB.

1.4 ACKNOWLEDGEMENTS

NBA Construction Consultants wishes to acknowledge the valuable assistance provided throughout the study by the bodies mentioned in section 1.2 above and in particular for the generous advice given by the individuals listed in Appendix 1. Our thanks are also due to J. Sherring and B.J. Madden of the District Audit Service, who have directed the project on behalf of the Chief Inspector of Audit.

2. THE CAPITAL PROGRAMME

2.1 STRATEGIC POLICY OBJECTIVES

A coherent and comprehensive strategy is an essential prerequisite to an effective programme of capital expenditure. If optimum value for money is to be achieved, individual projects must be proposed within a clear framework of overall policy objectives; this applies equally to the total programme of the authority and to the various heads of expenditure within it which are the separate concern of different chief officers and spending committees.

The authority's structure and procedures relating to contracts must, therefore, be designed to ensure that:-

- * All policy objectives are clearly defined
- * Policy objectives in relation to different heads of expenditure are compatible, and co-ordinated within an overall strategy
- * The individual projects included in the programme represent the optimum means of achieving these objectives

2.2 THE CORPORATE APPROACH

While the "corporate approach" to capital programme management has become a somewhat hackneyed term, the concept remains valid if an acceptable strategy is to be achieved, implying a total commitment to team working across all departments and committees, rather than the adoption of specific management styles or organisational structure. Nevertheless, the authority should keep under review both its procedures and its structure, to ensure that they allow the following conditions to apply:-

- * That all the relevant considerations are taken into account and given due weight at policy level
- * That all the necessary contributions are effectively marshalled at a practical level

This report underlines the principles of corporate working, using examples of suggested methods for illustrative and comparative purposes, where appropriate. In this section, these are discussed in relation to the overall capital programme and in subsequent sections in relation to individual projects.

2.3 PRIORITIES IN RESOURCE ALLOCATION

The identification of priorities in the commitment of financial resources is a vitally important element of both the formulation of strategy and its ultimate translation into the proposed capital programme. These priorities will be determined by a number of considerations; at Member level they will be substantially of a political nature, with the authority's officers responsible for resolving the practical issues involved. However, at all levels a primary objective must be for the selected options to represent the maximum gain to the community for the capital available, i.e. optimum value for money.

For each option, this necessitates an evaluation both of the potential gain and of the total project cost, as discussed below.

2.3.1 Social gain

Although social gain is a politically sensitive subject which does not lend itself to analytical quantification, one yardstick by which it may be measured is the extent to which the completed project meets identifiable needs. To be of practical value, however, such assessments must be sufficiently broad to take in all the relevant factors: for example, in a housing context, social gain should be measured not only in terms of the numbers of people housed, but also for the conditions achieved, and the tenants' satisfaction with them. (For a detailed discussion of the concept of value for money in a housing context, reference should be made to the second report of the Development Management Working Group, "Value for money in local authority housebuilding programmes" - Bibliography reference 2).

In any given project, the range of considerations involved in assessing social gain may extend beyond the remit of any one department or committee, further emphasizing the need for a corporate approach. For example, a local authority might acquire a site primarily for social benefits, such as the clearance of non-conforming uses, or slum clearance, that might be unrelated to the purposes of the development subsequently proposed for the site.

2.3.2 Development costs

The authority's assessment of the costs of the development options available to it must similarly be broadly based. In particular, although the cost of construction will account for a greater part of the whole, the cost of land and site development can also be very substantial. These costs must be carefully evaluated, whether the land is to be acquired or is already in the authority's possession.

The necessary technical assessments will be the responsibility of the officers of the authority, who would seek to resolve any difficulties as far as possible before reporting to committee. Nevertheless, for Members to be able to take balanced decisions, they need to be informed on the subject of the basic issues involved, as discussed below.

For all but the most minor developments, time and expense must be devoted to assessing the suitability of the proposed site, in as much detail as necessary. In particular, the cost implications must be assessed with reference to such issues as the following:

- * Whether or not the site can readily be drained
- * The availability of main services and any need for diversions
- * The physical characteristics of the site, including access, existing buildings or remaining infrastructure
- * The load-bearing capacity of the ground
- * Previous use of the site resulting in the presence of any toxic substance in the ground.

This raises a difficult question of judgement in that detailed site investigations are expensive and are thus not normally undertaken until shortly before detailed design work commences, with a minimum number of boreholes and/or trial pits sunk on the line of the proposed construction. However, this entails the risk of significant changes to the proposals, or even abortion of the scheme, if ground conditions are found to be totally unsuitable at this stage (or subsequently). Careful consideration should, therefore, be given to a thorough investigation of all potentially difficult sites at a very early stage (prior to purchase of the land if not already owned by the authority).

At all levels within the authority, it is necessary to inculcate an awareness of the need to strike an economic balance between current capital cost and future revenue costs, especially those arising from maintenance and energy consumption. The capital spending allocations introduced under the Local Government Planning and Land Act 1980 should permit more discretion than was previously possible with (for example) the application of the Housing Cost Yardstick.

2.4 COMPILING THE CAPITAL PROGRAMME

A wide variety of arrangements for compiling capital programmes is possible, but particular success has been experienced with the use of inter-disciplinary officer teams. Depending on the size of the programme, the arrangement could comprise an inter-departmental "Capital Programme Group", briefed to propose the following year's capital programme as a whole, or, in a large authority, "Programme Area Teams", each dealing with a specific category of expenditure, e.g. Housing, Social Services, Education.

Such teams would be responsible for the definition of potential objectives and the provision of advice on policy guidelines, e.g.

- * identifying needs
- * appraisal of feasible solutions
- * proposal of possible projects

The group or team would be responsible for the assembly of all the necessary information, from both internal and external sources. It should comprise senior officers (not necessarily first tier), including representatives from the "user" department(s).

2.5 FORMAT

Although the format of the capital programme will vary widely according to the authority concerned and the nature of its responsibilities, the primary objective should be for the programme to provide an effective working instrument by means of which the authority's commitments and intentions may be clearly and realistically expressed. Two important considerations are timescale and classification as discussed below.

2.5.1 Timescale

Notwithstanding the uncertainties arising from capital spending allocations set on an annual basis, and possibly subject to alteration during the year, the capital programme should describe the authority's intentions over a minimum period of four years, in order to encompass the development timescale of most schemes, and at least the pre-contract period of a particularly large and difficult project. Some authorities find it advantageous to cover a period of up to ten years, with the second five-year period taken as a single block.

2.5.2 Classification

Varying degrees of commitment will attach to the projects included in the capital programme, generally according to the point reached in the development process between inception and construction. Thus, in addition to analysing the year-by-year budgets into the programmes of individual spending committees, it is necessary to classify schemes according to their status. Most simply, this classification could be into "committed" and "uncommitted", with a more detailed analysis taking the following form:-

- * Base programme, - all schemes already in progress and those planned to start during the current year
- * Starts list, - schemes planned to start in the following financial year
- * Design list, - schemes not planned to start until after the following year, but to which the authority has demonstrated a degree of commitment by authorising design effort and possibly advance expenditure
- * Preliminary list, - schemes included on a tentative basis to enable the client division to undertake feasibility studies without committing major design effort or any advance expenditure.

2.6 IMPLEMENTATION

Implementation of the capital programme essentially consists of the management of individual projects through to completion, as discussed in the following sections of this document, and the companion volume dealing with the contract phase.

However, it is also essential that the authority maintains a strategic overview of the situation, in order to respond to over- or under-spending in the capital programme as a whole. While the importance of the accurate monitoring of individual projects during the contract phase is generally well understood, this report underlines the need for the monitoring of cost forecasts in the precontract stage when many of the most significant decisions affecting cost are in fact taken.

A mechanism is also needed whereby the authority can make suitable strategic responses, by the exercise of such options as the following:

- * Virement within and between heads of expenditure
- * Approval of supplementary estimates
- * Redesign and retender of individual schemes
- * Bringing forward or deferring individual schemes.

This again implies action by the officers of the authority on a corporate basis, referring to committee for the approval of all significant decisions. Although the management team of chief officers under the leadership of the Chief Executive would take ultimate responsibility (at officer level) for the necessary co-ordination, there could also be a significant role in this context for the "programme implementation group(s)" as discussed below in section 4.3.

3. RESPONSIBILITY FOR INDIVIDUAL CONSTRUCTION PROJECTS

3.1 ESSENTIAL ROLES

Within the traditional contractual framework, three principal parties are involved in a construction project, namely:-

- * The Client, or Employer, who orders and pays for the construction work.
- * The professionals who undertake on behalf of the Client to design the project and supervise its construction, and who may conveniently be referred to as the "design team".
- * The Contractor who undertakes the construction work.

In the public sector, any or all of these may be represented by departments or sections within the same authority (for example, the Housing Department, the Chief Architect and the direct labour organisation respectively), but in principle the functions and responsibilities of each remain the same.

It is vitally important that the procedures of a public authority relating to construction projects recognise the distinctive nature of the essential roles to be played, and a primary objective of this document is to clarify the issues involved and thereby to assist in the definition of appropriate responsibilities and delegated powers within the authority's own management procedures and internal regulations.

In some contractual situations the roles of the different parties may vary from the traditional framework, for example, under contracts let on a 'design and build' or 'management contract' basis, which are discussed in section 5.

3.2 THE PUBLIC CLIENT

Although the client has a crucial role to play, the 1975 NEDO report "The public client and the construction industries" (the Wood Report - Bibliography reference 3), found widespread and conspicuous failure amongst public sector clients to give due regard to their role, and observed that the effective client was often difficult to identify. A reason for this might be that a number of parties could have a "client" interest in the project; for example, for a local authority building project, these could include:

- * The ultimate occupants, or users of the building
- * The department responsible for the administration, management and upkeep of the premises
- * The community at large, who are funding the project by means of rates and taxes

This document relates ultimate responsibility for the client role to the Membership of an authority, who are answerable for the expenditure of public funds in order to meet community needs, giving due regard to all the interests involved. In a local government context the Council thus represents the ultimate client; however, as responsibility for construction projects is normally assigned to committees covering particular spheres of activity, this document generally refers to the "client committee" as fulfilling the client role at Member level. In practice, the majority of client functions are further delegated to the professional officers of the authority.

3.3 THE ROLE OF THE CLIENT COMMITTEE

The essential role of the elected Membership is in identifying policy objectives. This will involve:-

- * Deciding priorities (including the balance between short-term and long-term considerations)
- * Reviewing the results achieved
- * Ensuring that comments and criticisms from the public are taken seriously.

In order properly to fulfil this strategic role, which cannot be delegated, it is essential that committees do not become weighted down with routine or purely technical matters. Nevertheless, in view of their responsibility as the ultimate client, the Members must maintain a strategic oversight of the construction programme. In particular this implies that the committee must:-

- (1) Take all significant decisions on expenditure;
- (2) Deal with exceptional problems;
- (3) Ensure that progress and performance are properly monitored.

This need not lead to a close and detailed involvement in all aspects of the development programme, which would be manifestly impractical in the great majority of cases; rather, the client committee must trust officers to perform their duties in a professional manner within the permitted limits defined by their delegated powers.

3.4 THE ROLE OF THE PROFESSIONAL OFFICER

As already noted, the officers of an authority may be identified with all three major roles within the traditional contractual framework. Although this provides a singular opportunity for the effective integration of the development process, a clear distinction between the different roles must be maintained, in order that each may be properly fulfilled.

Where a particular department can be identified as "client department", it will have a significant role to play in the discharge of client responsibilities, for example, in drafting the brief to the design team (discussed in section 7). The legal and financial departments of the authority would represent the client in their particular spheres of activity; in the latter case this would include the provisions of an internal audit service (see section 3.5 below).

In-house professionals may not only serve the client directly as members of the design team, but may also be required to co-ordinate and oversee external consultants and in other ways act in the client role (see section 6.3.3 below).

In all cases officers have a duty to communicate with the client committee in terms it can understand, and in a form that facilitates a grasp of the salient issues.

3.5 THE ROLE OF THE AUDITOR

It is the unequivocal responsibility of the Members of the authority and of the senior officers to ensure, at their respective levels, that the capital programme is properly managed. Nevertheless, the internal regulations of the authority should give the internal auditor wide powers of search, and for reporting his findings; enabling him to make a significant contribution by commenting on accepted procedures throughout the development process and how they are complied with in practice. With these ends in view, the internal audit staff should be totally independent of routine contract procedures; in general, Standing Orders relating to internal audit should follow the recommended practice notes issued by the Chartered Institute of Public Finance and Accountancy (CIPFA).

The role of the auditor has been discussed in detail in a number of documents published by or in conjunction with CIPFA, to which further reference may be made (see Bibliography references 1,4,5, and 6).

3.6 INTERNAL REGULATIONS

The activities of a local authority must be governed by sets of regulations at different levels, devised not only to guard against malpractice, but also to encourage good practice and efficient working. Inter alia, they should provide a clear statement of the framework of delegated powers relating to the management of construction projects, by providing:

- * A definition of the freedom at successive levels to take decisions without reference to higher authority.
- * Procedures for bringing before appropriate committees all items properly the subject of their attention.

In general terms, the internal regulations must strike a reasonable balance between ensuring demonstrable public accountability and providing the opportunity to exercise reasonable commercial judgement. Similarly they should require the officers of the authority to be properly accountable to the relevant committee, without overloading either with bureaucratic procedures or inhibiting the exercise of the officers professional skills. To this end, the internal regulations might usefully distinguish between "major contracts" and "minor contracts".

The format of the internal regulations is a matter for the judgement of individual authorities and will depend largely on the size and scope of their capital programme: for a larger authority, a hierarchy of management procedures might comprise the following:-

Standing orders: defining points of principle and parameters of action to be strictly observed, as determined by the Council. These may be incorporated, as in one London borough, within a document describing the Council's scheme of management, which defines the roles and responsibilities of committees and describes the means whereby powers may be delegated to officers.

Financial regulations: these augment standing orders, setting out the rules by which the Council's financial affairs are regulated. They are binding on all elected Members, co-opted committee members and Council employees and express the Council's prevailing fiscal policy as determined by the appropriate committee.

Administrative procedures/codes of practice: supplementary to standing orders and financial regulations, these provide useful guidance to Members and officers alike in the interpretation of the Council's policy and their several and collective responsibility for compliance. They also provide a valuable degree of flexibility by allowing the modification or amendment of procedures as internal or external circumstances dictate, without the need for the amendment of standing orders. Although not having the force of standing orders, these procedures should be mandatory for officers except where special circumstances may permit a waiver from the appropriate chief officer. Failure to comply with procedures in the absence of such authority may be the basis for a disciplinary offence.

Two subjects which could merit codes of practice in their own right in a large authority would be the monitoring of the capital programme and procedures relating to capital contracts.

Departmental practice notes: these are useful for the guidance of officers as employees of the Council in defining procedures for compliance with the mandatory requirements described above, as well as for keeping professional and technical officers in particular up to date with good practice in their respective fields.

Where specific procedures are discussed in this report, the general scope of the relevant internal regulations is indicated, but particular forms of words are a matter for the judgement of individual authorities. Similarly, no attempt is made in the text to prescribe which form of document should be used to specify particular regulations.

4. MANAGING THE DEVELOPMENT PROCESS

4.1 MANAGEMENT OF INDIVIDUAL PROJECTS

The overall objectives of the authority, as expressed in its capital programme, can be realised only by the effective management of individual projects. In this connection, the report of the Housing Services Advisory Group "The client role in public sector housebuilding" (Bibliography reference 7) commented on the fragmented and poorly coordinated approach often evident in local authorities, and pointed out that "development programmes do not merely happen, they have to be supervised and controlled throughout the acquisition process, design processes, pre-contract stages and actual contract stage - in a word they have to be managed". A number of departments and possibly committees might contribute to this process, and thus a corporate approach is as necessary in this context as for the achievement of a coherent overall strategy.

Although in the final analysis effective corporate management will depend on the competence, energy and ability to work together of those involved, both the structure and procedures of the authority should be compatible with the practical realisation of corporate working. Organisational details can be worked out only in the context of individual authorities and their programmes, but a number of general principles may be identified. These are discussed below, illustrated by practical suggestions.

For discussion purposes, two levels of management and control may be distinguished (although in practice no rigid line of distinction will exist), namely:-

- * Executive action in initiating and co-ordinating the necessary contributions from the relevant departments and professions
- * Overall monitoring and supervision, successively at officer level and Member level.

4.2 EXECUTIVE ACTION

The essential principles are that:-

- * Responsibility for action is clearly located and carries sufficient authority for its discharge.
- * Action is co-ordinated.

Two practical suggestions towards these ends are set out below.

4.2.1 Nominated project officer

Ideally a single person should be recognised as "the nominated project officer", having overall responsibility for getting a project built. This was emphasised in the Wood report which found in particular that the project conception and briefing phase was seldom pre-planned, and that delays could arise for no better reason than that no one person took responsibility for steering the project through the decision-making process.

The chief technical officer frequently takes responsibility for taking a project over all the hurdles; in any event the professional in charge of the design team has a clear duty to coordinate the project in relation to the design and construction processes, and could with advantage also coordinate incidental processes, for example in a school building project, the purchase of kitchen equipment and loose furniture.

However, the technical officers (or consultants) are not necessarily the best placed to take responsibility for every aspect of the development process. In particular, specialist skills would be required to coordinate the initial pre-contract phases of a large or complex development, especially in an urban context or involving joint developments with the private sector; management training and experience would be an important attribute. An authority with a programme of this nature should therefore give careful consideration to maintaining a specialist project coordination section. A practical arrangement might be for such staff to take overall responsibility for the coordination (in programme terms) of a project up to a defined point, such as tender stage, then handing over to the leader of the design team.

In the final analysis, the personal qualities and leadership skills of the nominated project officer are a more important consideration than formal qualifications or professional background; it should therefore be an open post rather than permanently linked to a particular office. Nevertheless recognition of a nominated project officer should be a standard procedure on all projects (lumping small works together).

4.2.2 Officer working party

The formation of an officer working party will be a practical aid to the co-ordination of a large project, drawing together all the different departments and disciplines committed to it, preferably represented by the officers actively involved, rather than first tier officers. A strong lead is an essential requirement, given by the officer from the discipline most heavily involved (if specialist project management or co-ordination skills are not available); this officer would logically be recognised as the nominated project officer. Such working parties need not be formally constituted, but for the sake of clarity and good order basic administrative disciplines should be observed, such as the recording of its discussions by means of notes (rather than minutes) and the issue of reminders for the next meeting.

4.3 MONITORING AND CONTROL AT OFFICER LEVEL

Although ultimate responsibility for managing the development programme must lie with the relevant committee, there should be a mechanism at the officer level whereby the performance of those involved could be monitored, and directions given as necessary. In this connection the first report of the Development Management Working Group "The management of local authority housebuilding programmes" (Bibliography reference 8), criticised traditional local authority departmental structures, which it felt resulted in no one officer being responsible, under the client committee, for the whole of the development programme, and advocated the nomination of a "development manager", who could be given full delegated authority to determine resource priorities, to get things going and keep them moving.

In practice, the development manager with no executive authority outside his own department has found life difficult and the concept has generally fallen into disfavour. The desired objectives may be achieved by making the appropriate arrangements at executive level (as described above) for senior officers to exercise control on a corporate basis. Although this could be a task for the management team of chief officers, there is again an opportunity for a valuable role to be played by inter-disciplinary "control" or "programme implementation groups", briefed to:-

- * Monitor progress and expenditure against programme
- * Identify and discuss all significant problems
- * Submit recommendations to the management team of chief officers, or direct to committee.

All the relevant disciplines should be represented in such a group, including the client department. Representation should be at a senior level, although not first tier; leadership could be provided by a senior officer nominated by the Chief Executive, or from the project co-ordination section if such a group existed.

The numbers of such groups would depend on the size of the authority's capital programme. Each would logically relate to one of the principal categories of the capital programme.

Exceptionally large or prestigious projects make exceptional demands on the client body, as well as the other parties involved in the construction contract. Thus an authority faced with such a project should consider exceptional arrangements, including the appointment of a project manager with the appropriate skills, if necessary from outside on a limited term contract or from a firm of consultants. The project manager should be located in the client or a neutral department (such as Chief Executive's), and be detached from the day-to-day working of the design team.

4.4 MONITORING AND CONTROL AT COMMITTEE LEVEL

4.4.1 Committee structures

The committee structure and policy-making arrangements of a particular local authority will depend fundamentally upon its status and location and the size, composition and needs of the population served. Inevitably, matters regarding development management will be subject to a number of important and over-riding considerations. Thus, while in many instances one committee may be readily identifiable as the client committee for an individual scheme, it is possible, especially for a large or complex project, that the development will be funded from the vote, and subject to the approval, of more than one committee.

The authority should consider whether, in these circumstances, its procedures are adequate to ensure co-ordinated decision-making at committee level. While a substantial amount could be done by officers to provide the respective committees with the necessary information, it may be more appropriate for special sub-committees of the main resources committee to be set up in certain cases. For example, for a town centre redevelopment representatives might be drawn from committees responsible for transportation, leisure, planning and housing. Such a sub-committee could be given formal delegated authority to take client decisions within prescribed limits. If the size of the scheme were not sufficient to justify such an arrangement, a Members' working party could be formed, working on a more informal basis, and briefed to consider the relevant issues and present a co-ordinated recommendation to the relevant committees.

If the size of its programme justified it, a major spending committee (such as housing) should give consideration to forming a development sub-committee with delegated powers to act as immediate client.

4.4.2 Reports to committee

For any project of significance, reports might be submitted to committee upon completion of key stages or significant events in the development process, such as:-

- * Contractual arrangements
- * Appointment of the design team
- * The brief
- * Proposals at sketch scheme design stage
- * Selection and appointment of the contractor

The possible need for and content of such reports is discussed in the relevant sections below.

In addition, the client committee should consider the need for reports on progress. Although responsibility for regular monitoring rests with the officers, operating through programme implementation group(s) or equivalent, Members should also seek to maintain a strategic overview of the capital programme as a whole and, when necessary, of important individual projects.

In practice, this will imply receiving reports either as a summary or on an exception basis. In general terms any significant slippage should be brought to Members' attention, individually in the case of large schemes or in aggregate in relation to small schemes. "Significant" can be defined only in the context of particular programmes, and would be a matter for the professional judgement of and justification by the officers concerned. It should always include factors giving rise to policy decisions on expenditure.

The format and detail of the reports is a matter for decision by the committee, in conjunction with the officers concerned. Although narrative reports are generally preferred, consideration should also be given to the use of standard forms, tabulating key information.

As a general principle, in any submission to committee that was of particular significance, or entailed the need for detailed explanations, the separate professional disciplines involved (including those in the design team) should have the opportunity to present their own reports.

4.4.3 Programme audit

An alternative means of control exercised in some authorities is by means of a "programme audit" whereby a small number of projects are selected at random and at different stages for a detailed "spot check" of programme achievement and action at successive stages up to the time of the review. Alternatively, specific aspects of the development process could be selected for particular study, such as the use of external consultants or the incidence and treatment of contractor's claims.

An appropriate arrangement for such an audit is for it to be undertaken for a "Performance Review Sub-Committee" of the main resources committee.

4.4.4 Minor works

The detail in which an individual project needs to be considered at committee level will obviously depend on its significance. Many small projects which would not normally justify individual committee attention, for example, rehabilitation of individual housing units or minor road works could be reported on an aggregated basis.

4.5 THE PROJECT PROGRAMME

A comprehensive programme is an essential tool for the management of a project through the pre-contract stages, providing:

- * A means of notifying all concerned of the target dates of the completion of their contribution(s) to the development process
- * A yardstick against which progress can be measured
- * An indicator of when corrective action is required.

4.5.1 Scope

All significant events in the development process should be included; for a large development the list of items would be extensive, and might comprise the following activities (each possibly with more than one target date):

- * public consultation exercise
- * planning permission
- * acquisition of land (including compulsory purchase procedures)
- * road closures
- * government authorisations
- * functions of statutory undertakers
- * appointment of consultants
- * agreement to brief
- * development of design (including cost planning exercise)
- * relocation of residents and businesses
- * advance ordering of materials
- * selection and appointment of contractor
- * construction phase
- * fitting out and commissioning

The programme should always be drawn up with due reference to the relevant committee dates.

4.5.2 Format

While the format of the programme may be left to the discretion of the nominated project officer, it should be represented on paper for all but minor or the most straightforward projects, and even in these cases a check list of key activities and dates should be compiled. A conventional bar chart should suffice for the average project, but a critical path network should be drawn up for large or complex projects.

4.5.3 Compilation and approval

The compilation of the programme is a matter for the professional skills and judgement of the officers involved, in relation to the circumstances of the individual project. However, with a view to wider issues it should be submitted to and approved by the relevant programme implementation group (or equivalent). The nature of the information submitted to committee should be decided between the committee and the relevant chief officers; however, for all significant projects (for example, those with an expected construction period of more than two years) the committee should expect to see a simple bar chart or at least a schedule of key dates. (The first DMWG report includes sample programmes for housing development).

4.5.4 Distribution

Copies of the programme (or an abstract of the key information) should be available to all departments with a contribution to make to the development process. It should also be supplied to the relevant officials in the central government departments concerned, particularly if a potentially lengthy process like a public enquiry is involved.

4.5.5 Programme considerations

In approving the programme the committees should be aware of the key issues involved. It is the duty of the officers to lay these before the committee in relation to individual projects, but the following apply generally : -

- * The pre-contract procedures, especially the design process (including cost planning) can require a significant period of time which cannot readily be compressed. (Even if additional professional and technical staff can be made available to work on a scheme, the timescale will not reduce in proportion to the extra resources allocated).
- * There will be a heavy penalty in terms of ultimate delay and extra costs if a scheme is put out to tender and started on site before all the preparatory procedures, such as road closures, are properly completed, or if the design is not sufficiently developed with a view to the form of contract proposed. (The JCT form normally employed for building contracts is predicated upon complete design information and "full" bills of quantity being available prior to tender).

- * A number of factors might call for an early start on site - for example, in times of high inflation, savings on fluctuations payments. The client committee itself might require a start by a given date in view of political considerations. In such circumstances decisions should be taken in view of all the implications, and with particular consideration given to the most appropriate form of contract.

4.5.6 Readiness to tender

In addition to programming and monitoring activity throughout the pre-contract phase, prior to seeking tenders a final check should be made that all activity prerequisite to a successful contract had been undertaken. This should confirm that :

- * The authority has good title to the land upon which the structure is to be built.
- * All necessary approvals have been obtained in respect of town planning, building regulations, etc.
- * The design has been sufficiently developed in relation to the form of contract proposed.
- * All the information appropriate to the method of tender is available.
- * Where the contract will be the subject of a government grant, all relevant requirements have been complied with.
- * Wherever possible, tenders for the nominated subcontracts have been received.
- * The contractor can be given possession of the whole site on the due date (unless specific arrangements have been made otherwise).
- * Where appropriate, advance ordering of components has been undertaken, and that the tender documents are compatible with this.

On the basis of such a check, a declaration of the readiness of the project for tender should be made by the nominated project officer; for a significant project this should be formalised by the signature of a "certificate of readiness".

In some circumstances it may be judged expedient for a project to proceed with some items outstanding; in such instances the certificates should be qualified, and the qualifications reported, with explanations, to committee.

4.6 INTERNAL REGULATIONS

Although sound capital project management cannot be legislated for in general terms the internal regulations should include the fundamental requirements that will be broadly applicable. Reference should be made to :

- * The nomination of a project officer to coordinate each project, or programme of minor works
- * The preparation and approval of a programme for each significant development
- * The definition of key stages at which progress should be reported to committee, or of criteria for reporting on an exception basis
- * The signature of a certificate of readiness prior to inviting tenders.

5. THE BASIS OF THE CONTRACT

5.1 TRADITIONAL CONTRACTS

Within the traditional framework of ordering construction work, a number of options are available as the basis of the contract, with variations in several respects. These are outlined below: a more detailed treatment may be found in the Wood report, a CIPFA review, and the DOE Code of Procedures for Local Authority Housebuilding (Bibliography references 3, 5 and 9).

5.1.1 Contract documentation

The legal basis of the contract normally comprises a standard form (see section 5.4) with a number of clauses setting out the respective obligations of the client and contractor, together with a number of other documents which describe the works to be undertaken, and which are normally supplied to the contractor for tendering purposes. For the majority of contracts these documents comprise drawings and Bill(s) of Quantities, the latter including a specification for the works. However, for small jobs (e.g. of less than six months expected duration) drawings and specification only may be considered adequate; this has the advantage for the client of reducing professional fees, but imposes higher tendering costs upon the industry. For rehabilitation work it may not be possible to produce fully descriptive drawings, and the contract must then be based upon a specification only, possibly together with notional quantities.

As a matter of normal practice, work should not start on site in advance of the preparation and signature of the formal documentation and this should be stipulated in the internal regulations. However, waivers should also be available for the chief technical officer or programme implementation group to proceed in exceptional cases.

The internal regulations should also make clear the relevant administrative procedures and responsibilities regarding the preparation, signature and security of the documents.

5.1.2 Basis of payment

If a project is sufficiently fully designed for contractors to tender in a single sum of money, for which the whole of the work described in the tender documents will be carried out, the contract may be let on a "lump sum" basis (although the conditions of contract will provide for subsequent adjustment of the sum in defined circumstances). Most building contracts are let in this manner.

However, if the tender has to be primarily in the form of individual rates for items of work not fully quantified, and the contractor is to be paid at those rates for work actually carried out, then the contract would be let on a "re-measurement" or "measured value" basis. Many civil engineering contracts are of this type.

In practice there is no clear dividing line between lump sum and remeasurement contracts, in that many lump sum contracts incorporate areas of work not fully designed at the time of letting the contract. This may be inevitable, and is not necessarily contrary to the client's interests. However, the letting of allegedly lump sum contracts with substantial areas of design incomplete has proved a prolific source of contractual disputes, and must be avoided.

A further method of payment is by reimbursement of the contractors cost together with a fee (which may be a percentage or a lump sum) to cover his overheads and profit. This is generally termed a "prime cost" contract. Such are usually regarded as appropriate only when other options are not available, on the grounds that although an element of competition can be introduced by obtaining tenders quoting labour rates and fee, they require very close supervision and it is difficult to demonstrate that the demands of public accountability have been satisfied. Situations where it is appropriate include emergency work and where the nature and extent of the work cannot satisfactorily be determined by measurement, as in complex restoration or remedial works.

5.1.3 Fluctuations

The standard forms of contract include optional clauses whereby payment to the contractor is increased (or decreased) according to fluctuations in prevailing prices and labour costs. For as long as inflation remains above a few per cent per annum, such an arrangement should be omitted only for contracts of less than twelve months duration.

5.1.4 Grouped contracts

If a number of projects of a similar nature are to be undertaken in succession it may be feasible to group the contracts, rather than let each one separately. A "continuation" contract is let on the basis of the prices for a preceding contract of a similar nature. A "serial" contract is one of a series let on the basis of prices set out in a standing offer for a defined programme of work. They are appropriate if the programme is planned for execution within a given time and preferably in a given area, and if there is a high degree of standardisation throughout (as, for example, in a housing estates modernisation programme).

5.1.5 Term contracts

Term contracts are similar in principle to serial contracts, except that a single contract, operative for a fixed term, is employed to cover work of a frequently recurring nature, which is undertaken as it becomes available. They can be employed on a variety of work, such as minor road works or housing improvements and conversions. In a housing context they should be considered particularly in the context of a General Improvement Area, Housing Action Area or similar, where a number of properties are to be improved, and where possession is obtained piecemeal.

Term contracts would normally be based on schedules of rates and perhaps representative bills of quantities, and are best used with small or medium-sized local contractors.

5.1.6 Phasing of building contracts

The standard forms of contract are based upon the site being made available, and the project being handed over as a single entity. Any phasing of the handover of a large project is often left to the discretion of the contractor on the grounds that this produces the most competitive tenders. However, this approach can give rise to extensive problems on a building project, particularly in relation to the commissioning and maintenance of services, and consideration should be given to describing the proposed phasing arrangements in the contract documents, and designing the project (especially the services content) with them in view. Although this may lead to a higher initial cost, it is likely to be cost-effective in the longer term.

In view of the problems associated with very large contracts, consideration should be given to letting successive phases as separate contracts, or alternatively entering into a management contract (see section 5.3 below).

5.2 DESIGN AND BUILD CONTRACTS

The term "design and build" implies any contractual arrangement whereby the contractor makes a major contribution to the design, and not simply the offer of a complete "package deal" wherein the contractor takes sole design responsibility; contemporary examples would include the offer of standard types of building in the field of timber-framed housing, or of light industrial units.

The approach is regarded with reservations by many professionals in public authority service on the grounds that the merging of professional and commercial interests has not always proved to be in the best interests of the client, with concern relating particularly to problems in maintaining control of the quality of design and workmanship. It is also considered difficult to be seen to be satisfying the demand for public accountability, in that selection is not possible simply on the basis of price competition, but also demands judgements on issues of technical merit.

However, these objections can also be raised against other approaches to obtaining construction work, and a number of reports have identified significant potential advantages by way of making use of the contractor's skills from an early stage, offering the promise of speed of construction and competitive rates. (Reference should be made to the Wood report, the second report of the Development Management Working Group, and the review published by CIPFA in 1978 - see Bibliography). It is also claimed that considerable savings can be realised in documentation and in the administration of the contract phase, by virtue of a much lower incidence of variations, nominations and claims. Thus serious consideration should be given to the use of this form of contract in appropriate circumstances, which could include:

- * Situations where the client's requirements can be satisfied by the use of standard buildings or elements and competent contractors are available with the appropriate products and expertise on offer.
- * The provision of specialised structures or equipment where the contractor/manufacturer has the necessary specialist knowledge and skills.

If the approach is adopted, the officers of the authority must retain a key role in providing (or ensuring the provision of) professional services in the following areas :

- * Agreement of a detailed brief, carefully describing any constraints on the elements of the design that are the responsibility of the contractor.
- * Examination of tenderers' design proposals, with particular reference to maintenance and other cost-in-use implications, and to social aspects.
- * Preparation of tender and contract documentation
- * Areas of design responsibility retained by the client (for example, layout and landscaping on a housing development)
- * Supervision of work on site
- * Provision of a cost advice service. (The Wood Report emphasised that the client requires the services of an independent cost adviser of high calibre in managing a project of this nature. Reference should also be made to the pamphlet published by the Royal Institution of Chartered Surveyors on the subject).

5.3 MANAGEMENT CONTRACTS

A management contractor is engaged by the client on a lump sum or percentage fee arrangement in order to provide a professional management service, forming an integrated project team with the traditional members of the design team, who are appointed by the client in the normal manner and who retain their particular professional responsibilities.

The essential function of the management contractor is to manage the project through all stages from initial design proposals onwards, inter alia replacing the input of the traditional main contractor, but without the same degree of financial self-interest, in that all construction work is undertaken by sub-contractors and charged to the client at cost. The management contractor normally provides common user plant, site services and equipment, and welfare and administration facilities.

A number of advantages are claimed for this approach :-

- * The injection of contracting knowledge and experience into the resources of the project team.
- * A very early start on construction without additional stress on the design team.
- * A strong input of management skills, particularly by way of programming and monitoring.
- * Value for money derived from the most competitive prices for each work element separately subcontracted.

Management contracting has found increasing favour in recent years and may usefully be considered for all large or complex building developments provided that careful attention is given to construction method and satisfaction of the demand for public accountability.

5.4 FORMS OF CONTRACT

A number of relatively complex standard forms of contract have been developed to define the duties of the parties to the contract.

The majority of building contracts for public authorities are let under the appropriate form published by the Joint Contracts Tribunal (JCT). The JCT forms comprise the following :-

- * The standard form, in a number of editions, namely private or local authority; with or without quantities or with approximate quantities.
- * The minor works form (a simplified version of the standard form for small contracts).
- * The form for prime cost plus fixed fee contracts.
- * The form for improvement grant work, in two variants, one for situations where an architect is employed, and one where not.
- * A form for design and build contracts.

A JCT form for management contracts is due to be published in 1982. The JCT and ACA are also developing "intermediate" forms of contract.

The Institution of Civil Engineers (ICE) publishes a form for works of a civil engineering nature; this may also be used for "buildings" that primarily involve civil engineering techniques, such as multi-storey car parks. The Institution of Mechanical Engineers/the Institution of Electrical Engineers/the Association of Consulting Engineers publish model forms for engineering services. The Property Services Agency use their own form of contract on term contracts, which a number of local authorities have adopted for the same purpose. A number of other forms are published for specific purposes; these are listed in a manual published by CIPFA in 1976, "Financial examination and audit of capital contracts" (Bibliography reference 4).

The clauses of the standard forms of contract should not be altered or deleted (except as provided for on the printed document itself) unless absolutely essential and then only with the benefit of expert legal advice. The ICE form does, however, allow for the insertion of special clauses, for which some authorities have standard entries. Additional requirements in a building contract may be written into the preamble of the Bill(s) of Quantities, for example, relating to programmes and progress reports. (No such insertions may over-ride any of the express conditions of the contract).

Although the standard forms have their critics, the legal complexities surrounding construction contracts has led to a general recognition of the wisdom of employing them without amendment, in the interests of a clearer understanding and interpretation of the contractual relationships between the parties.

5.5 CHOICE OF CONTRACTUAL ARRANGEMENTS.

Careful consideration should be given to the contractual arrangements and form of contract most appropriate to the project proposed, taking into account the nature of the construction and any constraints on time or professional resources.

This would be a matter in the first instance for the advice of the authority's technical officers, in consultation with any externally appointed members of the design team, leading to a final recommendation by the chief technical officer. Proposals relating to major projects should be referred to the programme implementation group (or equivalent) and committee for approval.

5.6 LIQUIDATED DAMAGES.

The JCT forms provide for the recovery of "liquidated and ascertained damages" by the client in the event of late completion of the contract. These must be genuinely based on the likely losses to the client and must not therefore be regarded as a penalty. The Society of Chief Quantity Surveyors in Local Government (SQCSLG) has issued advice that the proper assessment of liquidated damages should comprise:

- (a) loss of interest on the cost of the contract works,
- (b) professional costs,
- (c) further costs, as an "ad hoc" assessment,
- (d) fluctuations, ditto.

The result of these calculations should not thereafter be arbitrarily increased or decreased. For further details reference should be made to the SQCSLG report itself published in May 1976 and revised in 1981 (Bibliography reference 10).

The internal regulations should require liquidated damages to be calculated and duly enforced in the appropriate circumstances. Procedures to be followed should be fully described in practice notes and be in accordance with the principles identified by SQCSLG.

5.7 PERFORMANCE BONDS.

The need to take security for the due performance of the contract should be considered by the authority's officers in the light of all the relevant circumstances, especially the nature and value of the contract.

Indiscriminate bonding is a costly and time-consuming exercise which is no substitute for proper selection and vetting of suitable contractors. The need for bonding will be substantially reduced, if not avoided altogether, if the authority:

- (i) employs sound financial vetting procedures in compiling the tender list (if these raise doubts, normal practice should be to proceed no further with the contractor concerned), and
- (ii) checks the contractor's workload, by examining a list of his current jobs, to ensure that he is not over-committed.

Rather than stipulate bonding as a matter of course, internal regulations should give technical chief officers the option to use bonding in appropriate circumstances, to be decided in consultation with the chief finance officer.

For a detailed discussion of the issues involved, reference should be made to the Joint Statement on Performance Bonding and Financial Vetting issued by CIPFA and SQSLG (Bibliography reference 11).

5.8 PROGRAMME FOR CONSTRUCTION WORKS.

A programme for the construction works is essential for the effective monitoring of the project during the contract phase (as discussed in Part Three). This can be drawn up only by the contractor, and some standard forms of contract make the production of a contract programme obligatory. This obligation should preferably be extended to up-dating the programme for monitoring purposes throughout the contract.

The client and design team should give careful consideration to making their requirements clear by including any necessary stipulations in the Preamble to the Bills of Quantities.

5.9 INTERNAL REGULATIONS

The internal regulations and practice notes should make a formal statement of the key requirements and appropriate procedures for the proper making of contracts. In addition to points already noted, the following should be included :

- * A requirement that all contracts, except for those of less than a specified size, should be undertaken on the basis of formally prepared contract documents (or on the basis of a clear, written alternative form of "offer and acceptance" in the absence of a standard contract in the case of a direct labour organisation).
- * Allocation of responsibility for the preparation and signature of contract documents
- * A general prohibition of the start of work on site prior to the signature of formal documents, other than in exceptional circumstances, described in a report to committee and subject to arrangements for insurance and bonding, where required.

The regulations should not be so narrowly written as to preclude the exercise of reasonable commercial judgement in adopting other than the traditional arrangements.

6. THE DESIGN TEAM

6.1 ROLE OF THE DESIGN TEAM

In essence, the role of the design team is to act as the clients's agent in bringing the project to fulfilment, by taking responsibility for :-

- * The design of the project.
- * The administration and supervision of the contract.
- * The associated cost planning and advice.

The particular duties of the design team in the pre-contract phase on the project, by way of agreeing the brief, developing the design and selecting the contractor are discussed at the appropriate points in the following sections.

Notwithstanding that the design team represents the client in all dealings with the contractor, it has a professional responsibility to act strictly impartially between client and contractor. Although this has implications primarily in the contract phase, the principle applies throughout the development process.

6.2 DIRECTION OF THE DESIGN TEAM

6.2.1 Leadership

For all but the smallest or most straightforward projects, a number of professional disciplines are likely to be included in the design team, leadership of which will depend on the nature of the work. On a building project, overall responsibility is normally entrusted to an architect, who advises the client on the need for further skills such as in structural or services engineering, although on some rehabilitation schemes it may be more appropriate for a qualified building surveyor to take the primary role. On a project of an engineering nature, an appropriately qualified engineer will lead the team.

6.2.2 Internal Relationships

The relationships between the members of the design team will depend on whether a single organisation is appointed to provide the necessary range of professional services, or whether practices representing the different disciplines are appointed separately. The former offers the possibility of an integrated service, with all contributors to the design process under the executive authority of the leader, and offers the client the advantage of dealing with a single organisation which has accepted responsibility across the board. However, such an arrangement is generally available only through a comprehensive in-house technical service, although some consultants offer a multi-disciplinary service, and the lead consultant may be prepared to offer a comprehensive service by engaging further consultants on his own account.

On the other hand, if external consultants are appointed on an individual basis, although the leader of the team will have no formal executive authority over the other disciplines, he undertakes to coordinate and direct their efforts: in practice, recognition of common professional duty to the client generally ensures the necessary liaison and co-operation. Furthermore, the use of independent professional practices introduces natural checks and balances into the design process, and provides the opportunity for the contribution of different insights.

6.2.3 The role of the client

While respecting the status of the leader of the design team the client body must maintain an oversight of the situation by means of meetings and progress reports, the frequency of which would depend on the importance of the project. The client would require to be satisfied that the workload has been properly programmed, that resources are available to meet the programme, and that satisfactory arrangements exist for effective internal liaison. In the event of an individually appointed practice not performing satisfactorily, the client should be prepared to take action to back up the leader of the team. The exercise of such control should also help to ensure that the client's own obligations (as discussed in section 8.2 and elsewhere) are promptly and properly fulfilled.

Although these responsibilities of the client would normally be handled on a day-to-day basis by the chief technical officer of the authority (or project manager if such were appointed), the client committee should retain ultimate responsibility, and require reporting of all significant problems and the opportunity to take all significant decisions. It would be for the officers of the authority to define and if necessary, justify, what they consider to be significant matters.

If the members of the design team include external consultants, they should have the opportunity to represent themselves in instances where a project is being discussed in committee.

6.3 IN-HOUSE APPOINTMENTS

6.3.1 Professional obligations

Many authorities employ their own professional and technical staff who undertake the duties of architect, engineer, and quantity surveyor, on projects undertaken by the authority. In principle their professional duties under the contract are no different from consultants in private practice, including the obligation to act impartially between client and contractor; they should not for any reason be required to act in contravention of their relevant professional code of practice.

6.3.2 Appointment to individual projects

The range and strength of in-house professional resources is a matter for authority policy, and in practice the capacity of technical departments varies widely. However, economic considerations demand that the establishment be geared to normal workload levels, with peaks being accommodated by the employment of consultants.

It is the responsibility of departmental heads to keep under review the demands of the foreseeable programme in relation to both the resources and experience available in-house, and to advise accordingly on the need for work to be put out to consultants. In particular, the use of internal disciplines on major projects should be justified on the grounds of the necessary staff and skills being available and reported to and approved by the client committee on this basis. (In this context, "major project" could be defined as a scheme with an expected construction period of more than two years).

6.3.3 Extent of duties

The functions of in-house technical departments extend beyond those of external consultants appointed for individual projects. By virtue of their intimate knowledge of the needs and policies of the authority, in-house staff are likely to act on behalf of the client in the following areas:

- * Taking responsibility for all aspects of the programme of minor works, within a global budget
- * Coordinating items ancillary to the main construction contract (as discussed in 4.2.1 above)
- * Agreeing the brief for projects handled by external consultants (the brief is discussed in detail in section 7 below)
- * Oversight in both technical and management terms of work of external consultants, with particular reference to future maintenance (in order not to detract from professional liabilities, this should not amount to vetting or approval of detailed designs provided by consultants appointed in their own right). In this connection a number of authorities have found it helpful for communications on building projects if one of the principal disciplines has been provided by in-house staff, viz. architects or quantity surveyors.

6.3.4 Naming under contract

Where a number of professional disciplines are included in a department providing a range of technical services, the relevant chief professional officers (for example, chief architect, chief quantity surveyor), should be named in the contract documents rather than the departmental director. This places separate professional responsibilities where they naturally lie, and enables the director to stand one step away from day-to-day responsibility for the design team, and thus more effectively fulfil a coordinating role. In all instances professional indemnity cover should be provided by the authority (arrangements being made with the benefit of legal advice).

6.4 EXTERNAL CONSULTANTS

6.4.1 Selection procedures

Despite the fact that the performance of the design team is crucial to the success of a project, the Wood report found that client involvement in the process of selecting the design team was often minimal, and the procedures haphazard.

Procedures should be made clear in the internal regulations, recognising the need both to demonstrate public accountability and to ensure that as far as possible competent professional services are obtained. They should be sufficiently flexible to permit the authority to find the right balance in each situation between such considerations as the following :

- * The respective advantages of mutual familiarity arising from consistent employment of a firm, and of introducing fresh impetus and ideas from different firms.
- * The need to ensure that each appointment is appropriate in relation to the particular project, against the work load entailed in making each thorough assessment.

An authority with a steady programme put out to consultants should consider maintaining a standard list, categorised according to the capacity and experience of the firm concerned, from which appointments could be made for average projects. Such a list should be comprehensively reviewed at suitable intervals (no longer than four years). The review would be undertaken by an assessment panel comprising :

- * Representatives from the Chief Executive's and client departments.
- * Representatives from the technical services departments.
- * Chairmen of key committees (including all client committees).

The review should entail an assessment of the performance of all firms on the list, together with the examination of submissions invited from practices wishing to be included.

It would be more appropriate to select the design team on an ad hoc basis in the following situations :

- * Projects of a special nature.
- * Large projects, that is, of an expected construction period exceeding two years.
- * Construction programmes in which generally few jobs were undertaken by consultants.

In day-to-day terms, the chief technical officer of the authority should have delegated power to make any appointment from the standing list. However, all amendments to the list, and any appointments made on an ad hoc basis, should be approved by committee.

6.4.2 Selection criteria

When selecting a consultant, either for inclusion on a standing list or for appointment to a specific project, account should be taken of the following, in relation to the type of work to be undertaken :

- * Locality of operation
- * Staff resources
- * The range and depth of professional skills
- * Previous experience
- * Quality of work
- * Previous performance, in meeting the firm's programme, and in administering and supervising contracts on site

For an appointment on a large or important project the following should also be taken into consideration :

- * The existing work-load and future commitments
- * The senior people in charge of the project
- * Internal management procedures, particularly in relation to programming the workload, and for collaboration with other members of the team and the client.

6.4.3 Status

External consultants can be engaged in effect as sub-contractors to an in-house team, either to provide a professional service not available from in-house resources, or to relieve an in-house discipline of a peak load as, for example, when a sketch scheme is prepared in-house and detailed externally. The Wood report found the latter arrangement to be inherently unsatisfactory in many respects and it should be avoided if possible. However, the sub-contracting of complete disciplines is an arrangement preferred by some chief technical officers on the grounds that it enables them to retain all professional responsibility and provides them with a greater degree of control (as discussed in 6.2.2 above).

On the other hand, the arrangement whereby external consultants are appointed as members of the design team in their own right, and named in the contract documents, is generally preferred by the professions on the grounds that this requires the consultant both to be afforded and to exercise full professional responsibility. In these circumstances, external consultants should be able to have their written reports transmitted directly to the client committee, and as noted in section 6.2.3 above, have the opportunity to represent themselves when oral reports might be called for.

6.4.4 Terms of engagement

External consultants should be appointed on the basis of written terms of engagement which state clearly and unambiguously the services that are to be provided, and their remuneration for them; if this is not done, the scope for misunderstanding and dispute will be considerable.

The recognised duties and responsibilities of the different disciplines, against various levels of service, are fully set out in the standard terms of engagement published by the various professional institutions. In addition the Department of Transport publishes model agreements in relation to highway works. Authorities should depart from the standard terms only in special circumstances and upon serious consideration; proposed special terms should be scrutinised by the authority's legal officers, and given prior approval by committee.

The letter of appointment should normally cover the following :

- * Identification by date and description of the relevant Institution's conditions and scale of fees applicable to the appointment
- * Stipulation of category or basis of charging where alternatives occur
- * Interpretation to be placed on conditions or scales in cases of known doubt
- * Scope of commission
- * Extent of technical and other responsibilities
- * Compliance with Standing Orders, etc.
- * Requirements for supervision and liaison
- * Sanction and monitoring of variations
- * Cost limits and controls
- * Appointments of and collaboration with other consultants
- * Requirements as to insurance cover
- * Access by officers of the authority to contract records, and handing over same on completion.

7. THE BRIEF

7.1 OBJECTIVES OF THE BRIEF

The rôle of the client on this phase and the importance of a clear, well thought-out brief cannot be over-emphasised. Failure to prepare a proper brief is one of the major causes of delay and additional expenditure.

The fundamental purpose of the brief is to convey to the members of the design team the wishes and intentions of the client, to enable them to grasp the specific objectives of the project, together with any constraints upon the design, and to proceed with the design without making any unnecessary independent assumptions. (Some assumptions may be inevitable; they should be clearly agreed and specifically recorded).

Conscientious attention to the brief not only provides the design team with a clear statement of its objectives, but also obliges the client body to clarify its own requirements as far as possible before the commencement of work on detailed design.

7.2 DEVELOPMENT OF THE BRIEF

For a simple or straightforward project an adequate brief could be given to the design team in a single step. However, for a project of any size or complexity, the brief as finally agreed is likely to be the product of an evolutionary process.

Although the inclusion of the scheme within the capital programme implies that the justification for it has been established, the initial step would be consideration of the need for further feasibility or other studies. Given a positive outcome from any such studies, an initial brief can be given to the design team, on the basis of which it can begin to explore the various ways in which the client's needs can be satisfied within the proposed budget. This exploratory work might indicate that the original objectives are not feasible in relation to the finance available, or reveal other constraints not previously identified, in response to which the client's requirements may be modified or expressed more precisely; the reactions of statutory authorities and other groups will be obtained; construction, running and maintenance costs will be estimated, and benefits or rates of return evaluated whenever appropriate. It is essential that if a surveyor is to be employed he should be appointed at the outset in order to be able to make his contribution to this process.

Eventually an outline scheme will emerge which is preferred among the available options, which satisfies quantifiable requirements and is likely to be approved by the relevant authorities. The final brief is compiled and agreed on the basis of this preferred outline.

The development of the brief is likely to be an expensive procedure in terms of in-house staff time and/or consultants' fees, particularly if it entails the evaluation of alternative approaches. However, this will be repaid amply if it enables the client to make firm decisions that do not subsequently need to be changed. In this connection, the client must avoid wholesale changes of mind at any stage; any such decision should be taken in full view of the likely penalty in terms of cost, delay or inherently unsatisfactory compromises in the design.

7.3 CONTENTS OF THE BRIEF

7.3.1 Scope and detail

The scope of the brief and the detail included in the final version will depend on the nature of the project, that is, its size, complexity and whether it is part of a basically repetitive programme or a one-off development. In practical terms it will also depend on whether the design is undertaken in-house, by a frequently-used consultant, or by a firm new to the authority, although as already noted, in no instance should the design team be left to make unnecessary assumptions.

7.3.2 Essential information

Although agreement of the final brief is a collaborative process between client and design team, the authority must fulfil its client role by ensuring that the design team is provided with all the necessary information. In particular, the initial brief should include the following essential items:-

- * The purpose of the project, together with any necessary background information
- * The scope and content of the project
- * The required timing of the project, and an assessment of the consequences of failure to meet time targets
- * The expected budget restraints
- * Town planning considerations

For a building development the client should also provide : -

- * A social brief indicating how and by whom the project is to be used
- * A schedule of accommodation required
- * A statement of the activities and functions to take place in the development

A further essential point of policy that must be clarified at briefing stage is the quality of the construction envisaged, especially in relation to maintenance and other elements of cost-in-use.

7.3.3 Check lists

An authority with a regular programme of particular types of construction should consider the use of check lists to ensure that all relevant areas have been covered in the brief. (The DOE Code of Procedures for Local Authority Housebuilding (Annex 3c) includes a full check of items to be included in the brief for a housing development). A completed list can usefully form part of the detailed brief to the design team.

7.3.4 Flexibility in use of a building development

Although the client's objectives must be as firm as possible at the point when the brief is finalised, it is almost inevitable that changing fashions will eventually modify his requirements, possibly within the development timescale. Thus flexibility in use should be a primary objective written into the brief; in particular the opportunity for changes within the external envelope should be a priority requirement for large buildings such as schools, sports centres or office accommodation.

7.4 STANDARD BRIEFS

For an essentially repetitive programme consideration should be given to the preparation of standard briefs dealing with the common features, such as heating and hot water systems in housing developments. Although these would have to be adapted and supplemented as necessary for individual projects, they would simplify the compilation of the brief, and should facilitate standardisation of key elements, with potential benefits in subsequent maintenance and repair. (This need not imply standardisation of the design solution).

In any event, standard features are likely to be incorporated into certain designs as a matter of policy. All such standard items should be reviewed regularly in order to derive feedback from experience in use.

7.5 RESPONSIBILITY FOR THE BRIEF

Although preparation of the brief is a collaborative process between client and design team, the provision of the relevant information, including taking the necessary policy decisions, is a crucial responsibility of the client, the importance of which has been consistently underlined in the Wood report and subsequent studies.

Practical arrangements of the discharge of this responsibility would depend upon the nature of the authority and its capital programme, with the chief technical officer normally playing a primary role. The adequacy of the arrangements should be measured against the following objectives:-

- * That all the necessary information was available and had been taken into account, especially regarding user needs and feedback from previous design solutions.
- * That a reasonable balance existed between any competing factors.
- * That the necessary client responses were made in good time relative to the programme.

By way of an example, the programme area teams (introduced in section 2.4) could provide a forum for drawing together the necessary technical contributions and for reaching a reasoned decision. Alternatively, if justified by circumstances, an ad hoc 'briefing working party' could be formed for an individual project.

The need for committee approval would be a matter of policy, but in general it is a sound principle for client committees to approve both the initial and final brief for all significant projects.

8. PROCEDURES TO TENDER STAGE

8.1 EVOLUTION OF THE DESIGN

On the basis of the information supplied in the (initial) brief, the design team may proceed to develop the design to the following key stages:

- (i) sketch scheme design, at which point drawings and specification are sufficiently developed to indicate spatial arrangements, materials and appearance, and the design brief may accordingly be finalised.
- (ii) tender stage, at which the design is sufficiently fully developed, in relation to the type of contract envisaged, to invite bids from contractors.

Detailed procedures will depend upon the nature, size and complexity of the project and the form of contract proposed. For a building project within the traditional contractual framework, the process is described in detail in the "Plan of Work" published by the Royal Institute of British Architects (RIBA) (Bibliography reference 12). This is comprehensive in describing every activity necessary in connection with a building project of some significance; for a small or simple project the process will be relatively more straightforward. Procedures similar in principle would apply to engineering projects.

8.2 THE CLIENT ROLE

8.2.1 Client responsibilities

Although the development of the design is the professional responsibility of the design team, the client body has an essential rôle to play in :

- * Providing any further information required by the design team
- * Taking decisions on any matters arising
- * Reviewing and approving the proposals for the scheme, generally at sketch scheme design stage

This aspect of the development process will tend to run in parallel with development of the brief; thus the practical arrangements for the fulfilment of this rôle (discussed below) will reflect the principles already identified in the context of the brief (see section 7 above).

8.2.2 Officer level

In many instances one department will be identifiable as "client department" and will thus have a primary rôle in generating the necessary client input, but in practice contributions will be called for from a number of departments. For example, on a housing project, not only will the chief housing officer be involved, in regard to dwelling mix and individual dwelling type, but also the cleansing services manager, highways engineer, director of recreation, and building maintenance manager, in order to review questions of :

- * General building form
- * Access
- * Garaging
- * Refuse disposal
- * Play space
- * General environment

The practical arrangements for drawing together these different contributions will again be a matter for each authority to determine in the light of its circumstances and with similar objectives to those identified in connection with the brief, in section 7.5 above.

As before, the chief technical officer is likely to be best qualified to pass judgement on the technical content to the client's contribution, but not necessarily to the extent that his decisions should automatically override the views of the client department. The need could be met by the programme area team proposed in section 2.4, providing the forum for the identification and resolution of technical issues, with the programme implementation group (see section 4.3) fulfilling a programming and monitoring role. The client department should be represented on both.

8.2.3 Committee level

The degree of involvement of Members in this stage of the development process should be decided by the authority. Small, routine or repetitive schemes may be judged not to require committee scrutiny and be delegated to officers. However, as a general rule all significant projects should be reviewed in detail in committee at sketch scheme design stage (see section 8.3 below).

Following approval at this stage, further submissions regarding design issues should be necessary only if significant decisions were required, and officers should normally be authorised to proceed up to receipt of tenders within the approved financial constraints.

8.3 APPROVAL OF THE BASIC DESIGN

The design team's proposals for the essential features of the development should be approved by the client authority at the sketch scheme stage, on the basis of a report from the design team including:

- * Fully developed brief
- * Explanation of the scheme
- * Outline drawings and specification
- * Cost plan (see 8.5 below)
- * Future timetable

As noted in section 8.2.3 above, these proposals should be approved by committee in the case of all significant projects. To facilitate full appraisal, the report to committee should include the design team's submission, amplified as necessary to cover the following areas:-

- * Background to project
- * Proposed programme
- * Schedule of accommodation (for building works)
- * Site details
- * Financial implications (capital cost and annual revenue costs)
- * The implications of a fluctuating price contract
- * Confirmation of the justification for the project

Approval of such a report would not only confirm the place of the project in the capital programme, but also provide a definitive yardstick against which the project could subsequently be measured.

From the point of view of the design team the approved proposals provide a definitive framework of reference in which the detailed design can be developed, and should represent the final, considered view of the client authority in relation to its requirements. Any changes after this point would be likely to result in abortive work, leading to delays and extra costs.

The granting of this approval does not relieve the design team of its professional responsibility for the technical aspects of the design.

8.4 PROGRESS TO TENDER STAGE

Given approval by the client, the design team is able to proceed with detailed design, leading to working drawings, specifications and bills of quantities, to the point where tenders are sought.

It is emphasised that, following approval by committee at sketch scheme stage, the basic features of the design should be regarded as settled. On the one hand, the design team and/or the officers of the authority should not be free to introduce significant changes, without committee sanction, and on the other hand the committee should not seek to introduce changes unless absolutely essential.

8.5 COST PLANNING

Cost planning is the process whereby the overall budget for a project is apportioned between the component elements, in order to achieve optimum value for money on an even basis, within the constraint of the total figure. The cost plan is an essential and integral element of the development of the design, facilitating the thorough integration of design and cost considerations, and obliging the client to define his priorities at an early stage. Effective cost planning minimises the risk of the delays that arise when a project is found to exceed its budget upon being tested in the market.

Drawing up the cost plan is a collaborative process between the professional disciplines responsible for design and for cost information, calling for a high degree of discipline and professional skills on both sides. On a building project the latter is the responsibility of the quantity surveyor, who should be appointed at the outset.

8.6 STATUTORY PROCEDURES

The development process will involve the fulfilment of a number of statutory procedures at the relevant points before construction work can commence, possibly with others undertaken as a matter of policy. The procedures will vary according to the type of authority, and the nature of the project, but could include public consultation procedures, planning and building regulations consents and financial approvals by the relevant central government departments.

Responsibility for the procedures could lie with a number of departments in the client authority and with different members of the design team, and it is essential that the officer or working group responsible for the construction of the project maintain an oversight of them all. Accordingly, if a master programme is produced, all the necessary procedures should be incorporated in it; otherwise a comprehensive checklist should be drawn up (for each project), indicating target dates and the department or consultant responsible.

If a certificate of readiness is required, (see section 4.5.6) it should include a declaration that the necessary procedures have been completed.

8.7 INTERNAL REGULATIONS

Key procedures should be set out in the internal regulations of the authority. For traditional contracts, the following should be included :

- * Key points at which the proposals for the scheme are reviewed and approved, at officer level and at committee level
- * Key information to be supplied at these points
- * A requirement that design information should normally be substantially complete prior to seeking tenders (any exceptions should give rise to a qualified certificate of readiness, and thus be reported to committee)
- * A prohibition of any significant changes to the design following approval at sketch scheme design stage, except on the basis of a full report on the necessity for it and the implications of it from the design team, for approval by committee
- * A requirement that a cost planning service be provided for all projects, excepting those of a routine or minor nature

Appropriately adapted procedures should be included to cover "design and build" and management contracts.

9. SELECTION OF THE CONTRACTOR

9.1 SELECTION PROCEDURE

A variety of approaches is possible to the selection of the contractor, and the appropriate choice will depend on :

- * The type of contract envisaged
- * The size and complexity of the project
- * The time available before and after the start on site
- * The extent (if any) to which it is desired to involve the contractor in the development of the design

The selection procedure must satisfy two fundamental requirements, namely to meet the demand for public accountability and to achieve optimum value for money. The respective considerations do not necessarily produce the same answer, and thus considerable discernment may be required as to what represents the best interests of the authority.

The choice of procedure would normally be a matter for the professional judgement of the officers of the authority, in consultation with any consultant members of the design team, the decision being taken by the chief technical officer. However, for all significant projects the proposed procedure should be approved by the client committee.

The key features of the selection procedures used by the authority should be set out in the internal regulations and practice notes, including powers delegated to client committees and officers to proceed without approval by higher authority. As a general rule, Standing Orders should be sufficiently flexible to permit the exercise of reasonable commercial judgement, consistent with preventing malpractice.

9.2 BASIS OF COMPETITION

The demand for public accountability is usually satisfied by some form of competition between prospective contractors. Public accountability is most easily demonstrated by the invitation of tenders, comprising lump sum bids in respect of specific quantities of work, but competition on this basis is not always feasible, and even if it is, it may not represent the client's best interests. Alternative approaches and their applications are discussed under appropriate headings following.

For the sake of clarity and simplicity, the internal regulations should specify the circumstances in which the normal requirement for competitive tendering need not apply, for example :

- * Emergency works (these should be broadly defined as work necessary for the protection of life or property, or to maintain the functions of a public service)
- * Works normally entrusted to a public utility undertaking or similar public body
- * Circumstances in which negotiation is appropriate (see 9.5 below)

Whenever practicable in such situations an estimate of the cost should be made by an officer of the authority and/or obtained from or negotiated with the contractor prior to the work being done.

When competitive tendering is employed, a number of principles should be observed to ensure its effective operation, and these should be written into the internal regulations and/or practice notes.

For example :

- * The same information must be available to all tenderers
- * The information must be sufficient to allow the tenderer to compile his bid in a rational manner, without taking undue risks
- * The basis of the tender must be the same for all tenderers (qualified tenders are discussed in 9.7.3 below)

9.3 OPEN AND SELECT COMPETITION

9.3.1 Open competition

The invitation of tenders from all who wish to bid for a contract appears to offer the most satisfying answer to the demand for public accountability. However, it offers no assurance that the firms tendering will be competent either to tender or to undertake the work in view. It thus entails substantial risks for the client, and in practice has not proved a reliable means of obtaining value for money; furthermore, it imposes high tendering costs upon the industry. Accordingly, this approach is now generally deprecated.

9.3.2 Select competition

The objections to open competition can be met by inviting tenders from contractors selected as suitable for the project in view.

Inclusion of a select list should be on the basis of :

- * The financial stability of the contractor
- * His capacity and competence in relation to the demands of the project(s) in view
- * His underlying integrity

Firms applying for inclusion on the select list should therefore be asked to supply full information from which their capacity and standing can be ascertained, and this should be confirmed by taking up references and making visits to the firms premises. (An extensive check-list of information is set out in Annex 8A of the Code of Procedures of Local Authority Housebuilding, and a model tendering questionnaire agreed with the NFBTE was distributed with the Local Authority Associations' circular of 27 April 1977).

An authority's procedures, including detailed check-lists, should be described in its internal regulations.

In particular, wherever appropriate (for example, in relation to the number of firms invited to tender) procedures should follow the current Code of Procedure for Single Stage Selective Tendering (Bibliography reference 13) published by the National Joint Consultative Council, to which reference should be made in the relevant regulations.

9.3.3 Ad hoc and standing lists

An authority with a regular programme of work could usefully maintain a standing list of approved contractors, although it would remain necessary to compile an ad hoc list for any project that was a special case by virtue of its size, complexity or other factors.

The selection of short lists from the standing list for individual projects within the regular programme would be a matter for delegation to the technical officers of the authority, in conjunction with any consultant members of the design team. It is essential that this selection should be fair, and in the absence of other valid reasons it should be on the basis of rotation.

Preliminary enquiries should be made before despatch of documents to establish the willingness of firms short-listed to tender for the particular project in view.

Firms included on a standing list should be classified according to the size and (within broad categories) the type of contract they are equipped to undertake.

9.3.4 Compilation and maintenance of select lists

The intention to compile (or revise) a list should be advertised suitably in advance of the required date. Standing lists should be kept under continuous review, with provision for both deletions and additions at any time, with particular emphasis on the financial standing of the contractor. There should be a complete review at intervals of between one and two years.

The primary practical responsibility for the operation of the list would rest with the technical services department, in co-operation with the finance department. However, ultimate responsibility should rest at member level, and this should be reflected in Standing Orders.

9.4 TWO-STAGE TENDERING

The essential feature of two-stage tendering is that the contractor is selected at an early point in the development of the design, to which he is then potentially able to make a positive contribution. The contractor is selected in the first stage by competition on an outline design and approximate (even notional) bills of quantities, or by the submission of a priced bill of a recent project of a similar nature. In the second stage, firm bills are prepared and priced in negotiation with the contractor on the basis of the first-stage tender, following completion of the detailed design. (Detailed procedures are described in Annex 6B of the DOE Code of Procedures for Local Authority Housebuilding (Bibliography reference 9)).

Two-stage tendering, allows the design team to retain full control of the design process, whilst also offering the advantages of utilising the contractor's expertise at an earlier stage than usual. It is increasingly used with design and build arrangements to allow competition between contractors offering different solutions to the client's brief, permitting the client's architect to retain overall design and quality control. The method offers the opportunity to achieve an early start, by letting the contract in stages as the design work is completed and firm bills agreed. From the contractor's point of view, early involvement enables him better to plan the construction phase.

The client's intention to enter into a formal contract upon completion of the second stage negotiations should be formally expressed in a letter of intent, which should guarantee the contractor reimbursement of his expenses in the second stage if in the event the project was aborted.

The Wood report found that two-stage tender contracts could show significant benefits by way of a reduction in the variation account and smaller-than-average time over-runs. However, experience also indicates that these potential advantages may be lost if the second stage fails to result in the full design and documentation of a discrete phase before work starts on site, or the method is otherwise misused to achieve a premature start.

Two-stage tendering is likely to be of particular value if the nature of the project lends itself to the application of a building system, for example, CLASP or SCOLA in schools, or timber-frame in housing.

9.5 NEGOTIATION

Although negotiation with a single contractor does not in itself embody the principle of competition, in certain circumstances it may produce the best overall deal for the client, for example, if it enables time to be saved in the pre-contract period. It may also be the only option available in certain market conditions, for example if the contractor concerned offers a product or service that has been selected for technical reasons, and which is not generally available.

A number of safeguards can be built into the procedure in order to satisfy the demands for public accountability, including the following :

- * When circumstances permit, basing the negotiations on some form of initial price competition, as in two-stage tendering or continuation contracts based on earlier, similar contracts won in competition
- * The application of normal cost-control procedures within the design team, with particular reference to the cost plan
- * Entrusting negotiations only to senior staff, whether in-house or consultant
- * Maintaining full documentation of the negotiations
- * Subjecting all negotiated contracts to the scrutiny of a technical panel convened for the purpose, in addition to any procedures undertaken as part of the normal internal audit function

Internal regulations should permit the use of negotiation, subject to the approval of the client committee. The relevant procedures, especially those providing safeguards against malpractice, should be written into approved practice notes.

9.6 DESIGN AND BUILD, AND MANAGEMENT CONTRACTS

9.6.1 Design and build

The crucial feature of selecting a contractor for a design and build contract is that a technical assessment of the designs proposed by the contractors assumes equal importance to the comparison of the costs. Contractor selection thus requires professional services (either in-house or consultant) on behalf of the client, in addition to any required in connection with those elements of the design for which the client has retained responsibility. The selection of a short list (of not more than three or four contractors) to submit bids should be reported to committee, and the ultimate choice should be approved by the client committee on the basis of a fully argued report.

Detailed procedures are described in annex 6C of the DOE Code of Procedures for Local Authority Housebuilding (Bibliography reference 9).

9.6.2 Management contracting

Similar considerations apply to the selection of a management contractor in that an assessment of the contractor's proposals and his competence to implement them is crucial. With this in view, management contractors submit bids comprising a full presentation, both written and oral, of their proposals for managing the contract, including details of the personnel who would be involved. (This is also of value in selecting "design and build" contractors).

Such submissions should be evaluated by a panel with senior representation at both member and officer level. Again, in view of the heavy tendering costs involved, bids should be invited from only three or four contractors.

9.7 TENDER PROCEDURES

9.7.1 Instructions to tenderers

Internal regulations should stipulate that clear and comprehensive instructions be given to all tenderers. These should be fully set out in practice notes, and cover the following areas :

- * The form in which tenders must be submitted
- * Return under plain cover
- * The latest date and time for receipt of tenders and delivery address
- * The period for which the tender must remain valid
- * Whether alternative specifications to meet the functional requirements will be considered, and appropriate arrangements in that case
- * Declaration that the tender is bona fide
- * Performance bond

9.7.2 Receipt, custody and opening

The administrative procedures relating to the receipt, custody and opening of tenders should be described in the authority's internal regulations, with the objectives of guarding against malpractice and ensuring that the relevant information is circulated to all departments concerned. Requirements should include the following :

- * Tenders be submitted under plain cover, except for stating the relevant contract
- * A chief officer should be nominated to receive and keep all tenders in a secure place

- * Tenders should be opened at the same time within two working days of the closing date for receipt, by officers from two nominated departments, who should date-stamp, sign and witness the documents
- * A schedule of tenders should be compiled at the time of opening, similarly date-stamped and signed, and circulated to all departments concerned. Bids invited but not received should be included on the schedule.

Procedures for late bids should be described (they should not generally rank for consideration; any exceptions should be subject to administrative safeguards and approval at Chief Officer or committee level).

Requests for extension of the tender period should be considered by the officer (or working party) responsible for co-ordinating the project on the basis of the overall timetable constraints. If granted it must be notified to all tenderers, and should be reported to the client committee.

As soon as possible after opening, the lowest tenderer should be notified that his tender would be examined; the next one or two lowest should be informed that there might be further interest in their bid depending on the evaluation of lower tenders. All others should be notified that their tender was unsuccessful. (Standard forms of correspondence could be employed).

9.7.3 Qualified tenders

In order to ensure strictly fair competitive tendering, bids must be invited on identical tender information: attempts by tenderers to qualify their bids could negate this, and the NJCC Code of Procedure for Single Stage Selective Tendering 1977 (Bibliography reference 13) accordingly stipulates that qualified tenders should be rejected, unless the qualification is withdrawn.

On the other hand, the authority has the obligation to secure the most advantageous terms: if it were considered that these were best realised by permitting the tenderers some discretion in regard to the specification, this should be made clear in the tender documents. Consideration could also be given to the use of two-stage tendering in order to accommodate the contractor's contribution.

9.7.4 Communications with tenderers

Chief officers (or duly appointed consultants) should be authorised by the internal regulations to communicate with the tenderers in order to obtain information on technical or contractual matters necessary for a proper assessment of the tenders. However, all such communications should be confidential and recorded in detail; no information relating to prices should be divulged.

9.7.5 Evaluation

The NJCC Code stipulates that the contract period should be stated in the tender documents in order to limit competition to price only. However, if the contract period is not determined by circumstances, the client authority might derive some advantage from allowing the tenderers discretion in relation to time-scale. In this case, the period quoted to each contractor must be taken into account in assessing the tenders, as the lowest in lump sum terms might not be the cheapest overall, especially in times of high inflation, apart from the possible benefit to the client of having the building earlier.

Tenders must also be checked for arithmetical errors and omissions; procedures to be followed in the event of such being discovered would be a matter of policy and should be made clear in the internal regulations and practice notes. (In general, tenderers should be given the opportunity to correct genuine errors, although instances should be carefully recorded, and reported to committee). Tenders should also be examined to ascertain that individual prices building up the tender figure represented a reasonable balance, by reference to the cost plan; in particular that they were not unreasonably "loaded".

9.7.6 Acceptance

A nominated chief officer should be empowered to accept the lowest tender (subject to contract) upon the recommendation of the design team, provided that it is within the budget figure included in the approved capital estimates. Acceptance of other than the lowest tender should require the approval of the client committee, on the basis of a full report from the design team.

In the event of tenders exceeding the budget figure, the client committee should approve the appropriate action, that is, whether to look for savings on the lowest tender, or to increase the budget at the expense of savings elsewhere.

Any tenderers informed of the possibility of further interest in their bid should be notified immediately of the decision to proceed with the successful tenderer.

All procedures, particularly authority delegated to officers to accept tenders, should be set out in internal regulations.

9.7.7 Letting contracts

Contracts should be let as quickly as possible after receipt of tenders in order not to delay the start of work on site. Apart from creating difficulty with cash limits, an unnecessary delay would increase costs on a fluctuations contract (the official tender date, from which fluctuations run, is usually ten days before the closing date for receipt of tenders). The authority should therefore ensure that its administrative procedures are particularly efficient at this point, and properly described in practice notes.

The technical officers of the authority and/or consultant members of the design team should decide at an early stage which elements of the work should be supplied and/or installed by specialist firms, to be nominated as suppliers or subcontractors to the main contractor. Such elements would be covered in the tender documents for the main contract by Prime Cost sums, and as far as possible these should be based on quotations obtained beforehand.

Procedures relating to nominated suppliers and subcontractors should be covered in the internal regulations and practice notes; as far as possible they should be the same as the corresponding procedures relating to the main contract.

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1 Buckingham Place
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CONTROL OF CAPITAL PROJECTS

Part Three Contract Phase

September 1981

Revised November 1982

PART THREE - CONTRACT PHASE

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1 INTRODUCTION

1.1 SCOPE OF PART THREE

The assignment of which this report is the end result originated in proposals submitted by NBA to the Chief Inspector of Audit in March 1980 aimed at the improvement of post-contract control procedures on local authority building contracts. It deals with events following the signing of the contract for the construction work; pre-contract procedures are dealt with in Part Two of this volume.

The report does not seek to advise members on professional practice in the control of building contracts nor the associated problems of integrating satisfactory contract audit procedures with those procedures instituted by professional works officers and consultants in the exercise of their duties. These matters have been dealt with by the professional bodies themselves through a joint working party whose work is referred to below.

1.2 BACKGROUND

In his annual report for 1978/79, the Chief Inspector of Audit quoted the results of a review of 13 major local authorities, where 11 authorities had no internal audit involvement during the construction or "post-contract" phase of the works and where in the other two the involvement was "occasional" and "not usual".

In the course of consultancy work in the public sector NBA had identified in a number of instances a need for improved procedures in relation to the financial monitoring of capital projects and in March 1980 submitted proposals to the Chief Inspector of Audit for research in this area.

The NBA proposals were aimed at the improvement of post-contract control procedures (i.e. during the construction and final account phases of a project) on local authority building and civil engineering contracts, through the publication of a document setting out guidelines on the essential features of a system for the effective control of capital expenditure that local authorities might adopt. The project was approved, under grant-in-aid, in July 1980, and terms of reference were agreed between NBA and the Audit Inspectorate in August 1980 on the above lines.

At the same time initiatives were being taken by a number of bodies in response to the Chief Inspector of Audit's comments and the subsequent Report of the Advisory Committee on Local Government Audit (the "Maynard Report") which encouraged those concerned in the control of building contracts to prepare a joint statement on their respective roles. These culminated in the formation, in January 1981, of a joint working party comprising representatives of the Chartered Institute of Public Finance and Accountancy (CIPFA), the Royal Institution of Chartered Surveyors

(RICS) and The Society of Chief Architects of Local Authorities (SCALA). Its terms of reference required the working party to produce a tri-partite statement relating to the financial control of building contracts let by local authorities. A principal objective was to define the specific roles of the authority's professional officers and consultants and the internal auditors, on the lines already set out in the joint statement published by CIPFA and the Institute of Quantity Surveyors in November 1980.

By the time of the formation of the working party, NBA had prepared an initial draft report, on the basis of studies undertaken in a sample of three local authorities, namely:

- * City of Southampton
- * Derbyshire County Council
- * London Borough of Wandsworth

This draft was circulated to the professional bodies comprising the joint working party as well as to the following:

- * The Institution of Municipal Engineers
- * The Institution of Civil Engineers
- * Department of the Environment (Housing Development Directorate)

In subsequent consultations with the joint working party it was agreed that, to avoid duplication in certain areas, the NBA report would be redrafted. The emphasis was changed towards a statement of principles for the guidance primarily of elected members, leaving the working party's tri-partite statement to define the specific responsibilities of the professional officers and consultants.

The final draft was prepared following a further round of informal consultation. It should be noted that reference to the above bodies does not imply their full and unqualified endorsement of the document in its published form.

1.3 NBA STAFFING

The project was carried out by SM Bradburn, FCIQB, as Project Manager, initially with JD Crane and latterly with AJ Jackson-Robbins, BSC, MCIOB, of NBA Management Consultancy Services Division, under the general direction of ET Jullien, C Eng, Chief Executive.

1.4 ACKNOWLEDGEMENTS

NBA wishes to acknowledge the assistance of the bodies involved with the compilation of this report, as listed in Section 1.2 above, and in particular is grateful to the individuals concerned who gave time and thought to the project. In addition, NBA would thank J Sherring of the District Audit service for the help provided in his role as client liaison officer.

2.1 THE PARTIES INVOLVED IN A CONSTRUCTION PROJECT

Well thought-out and appropriate procedures for the control of construction projects can be developed only in the context of a proper understanding of the nature of the development process, in particular a clear perception of the identity and roles of the principal parties involved, that is:

- * The Client, or employer, who orders and pays for the construction work.
- * The professionals who undertake on behalf of the Client to design the project and supervise its construction, and who may conveniently be referred to as the "design team". This service may be provided either by the appropriate disciplines employed "in-house", or by firms of external consultants, although in principle the duties and responsibilities of the members of the team remain the same.
- * The contractor who undertakes the construction work.

2.2 THE DESIGN TEAM

On a building project overall responsibility for the design is normally entrusted to an architect, who advises the Client on the need for independent consultants (such as structural or services engineers), and is responsible for the direction and integration of their work, although not for the detailed design, inspection or performance of the work entrusted to them. On a project of an engineering nature, an engineer of the appropriate discipline normally leads the team.

However, although one member of the team will be recognized as its leader, in the final analysis he will not have executive authority over the other professionals, unless they belong to a single multi-disciplinary practice. The Client must therefore maintain a strategic oversight of the design team's performance and capabilities, while at all times respecting the leading role of the Architect/Engineer.

The responsibilities of individual members of the team in relation to the Client are described in the standard terms of engagement published by the relevant professional institutions, which cover various types and levels of service. In addition, under the standard forms of contract between client and contractor, the members of the design team (including the Quantity Surveyor under the JCT form) have specific responsibilities involving professional obligations to the contractor as well as to the Client. In particular, the architect/engineer is obliged to maintain an impartial position between the client and contractor; this implies that he should not be required to act as the effective client by assuming all the responsibilities of the client function. In this connection the 1975 NEDO report "The public client and the construction industries" (the Wood Report) argued for the separation of design and client functions from the point of view of efficient management. These considerations have implications for the structure of the local authority, discussion of which is beyond the scope of this document. However, whatever the structure of an authority, it is essential that the separate responsibilities of design team and client are recognized and that this distinction is reflected in the internal procedures.

2.3 THE PUBLIC CLIENT

Although the Client has a crucial role to play in the development of a project, the Wood Report found widespread and conspicuous failure amongst public sector clients to give due regard to their role, and observed that the effective client was often difficult to identify.

In a local authority context, a number of parties could be regarded as having a "client" interest in a project, for example:

- * The ultimate occupants, or users of the building
- * The department responsible for the administration, management and upkeep of the premises
- * The community at large, who are funding the project by means of rates and taxes.

Ultimately, the client role must be identified with the elected members, who, meeting as the "Council", take responsibility for the expenditure of public funds in order to meet community needs, giving due regard to all the interests involved. As responsibility for construction projects is normally assigned by the full council to committees covering particular spheres of activity, this document refers to the "client committee" as representing the client function.

2.4 THE ROLE OF THE CLIENT

A detailed discussion of the role of the Client is beyond the scope of this document (it has been covered in depth in the Wood Report and several subsequent publications - see the Bibliography). However, the salient issues are considered briefly below in order to provide a proper context for the recommendations in the following sections.

Although it is impossible to give a universal and unequivocal definition of the role of the public sector client, some broad principles can be identified. In particular, the crucial role of the elected membership is in:

- (1) Identifying policy objectives
- (2) Deciding priorities (including the balance between short-term and long-term considerations)
- (3) Reviewing the results achieved
- (4) Ensuring that comments and criticisms from the public are taken seriously.

These responsibilities are of strategic importance and thus cannot be delegated. It follows that it must be an over-riding objective, in drafting procedures for a local authority, that they do not lead to the client committee becoming weighted down with routine or purely technical issues to the extent that they cannot fulfil their strategic role.

Although these strategic functions lead to client involvement primarily in the pre-contract phase of a project, when most of the crucial decisions will be made, the client committee retains ultimate responsibility for the project throughout the development process. This implies maintaining a strategic control of project affairs during the construction phase.

2.5 THE DISCHARGE OF CLIENT RESPONSIBILITIES

It is extremely unlikely that the workload of a client committee will permit it to maintain a detailed scrutiny of every contract, even if the membership are equipped with the appropriate professional and technical experience to manage every aspect of the development process. The client committee must thus not only rely heavily upon the professional service offered by the design team (whether in-house or consultant), but also delegate to their officers a substantial degree of authority to manage the development process, in effect to act as the executive client. The degree of delegation will differ between local authorities depending on their circumstances, particularly the workload of individual committees; the essential point is that it is clearly understood, and defined in a set of appropriate and workable procedures.

Having delegated responsibility to their officers, the client committee must trust them to get on with their jobs, if the Authority is to function with any efficiency. On the other hand, as already stated, the Committee must retain overall control, and in particular:

- (1) Take all significant decisions on expenditure;
- (2) Deal with exceptional problems;
- (3) Monitor the performance of all concerned.

The procedures of the Authority must therefore provide for the client committees properly to discharge their own responsibilities in controlling the construction programme. On the other hand they become self-defeating if they lead to an involved bureaucracy that hinders both committee and officers from discharging their primary responsibilities. Thus it is evident that the fundamental problem in establishing appropriate procedures is identifying the optimum balance between freedom of action (and thus potential efficiency) at officer level, and proper control at committee level.

This document describes detailed and extensive procedures for the control of construction projects during the contract phase. However, this does not imply that they are necessarily appropriate for every authority, but rather that client committees should make their own judgements in the light of the theoretical ideal.

3.1 APPROVAL OF BUDGET

The deepest involvement by the Client in the consideration of proposed expenditure is in the pre-contract phase of the project, initially in defining the intended budget figure, and ultimately in approving the contract sum. At the signing of the contract, the latter represents the commitment of the Client in relation to the construction contract (that is, excluding such items as professional fees and direct costs for furniture, etc.). However, this figure is unlikely to represent the eventual cost of the contract, as the contract sum will almost certainly be amended as work proceeds, for reasons including the following:

- * The contract may provide for "fluctuations" adjustments in respect of changes in basic costs which the contractor could not reasonably be expected to predict. (Even in the case of "firm price" contracts, adjustments are also made in respect of changes brought about by government intervention, for example, changes in types and rates of tax);
- * The standard forms of contract provide for variations to the works incorporated in the contract documents;
- * Certain aspects of the design may not be settled at the letting of the contract;
- * The contractor will be entitled to reimbursement of loss or expense if the progress of his work is delayed or disrupted by particular causes, as defined in the standard forms of contract.

Thus, although the primary initiative for cost control lies with the design team, the Client must remain involved during the construction phase. In particular, there must be clearly defined procedures whereby the Client may approve expenditure as necessary. The factors to be borne in mind when framing such procedures are discussed under appropriate headings below.

3.2 FLUCTUATIONS

For as long as inflation remains above a few per cent per annum, all construction projects of more than twelve months duration are almost certain to be undertaken under a fluctuations contract. This is a matter of considerable consequence for the Client, as even if the contract runs to programme, the final account will exceed the tender figure; furthermore, any delays will have significant financial consequences over and above any loss and expense reimbursed to the contractor.

Fluctuations payments are an inescapable commitment under the appropriate forms of contract, and thus cannot be "controlled". For the Client, the only alternative to accepting the increased costs arising on a particular project is to make sacrifices of corresponding value within the scheme. However this is very unlikely to be a realistic option, given that costs should have been subject to strict disciplines during the pre-contract phase, and may already have been subject to at least one round of reductions, upon the receipt of tenders or earlier. Furthermore, to make savings by reducing specifications may carry a substantial risk of significantly increased maintenance costs. Nevertheless the design team should

report actual and expected fluctuations costs regularly and as realistically as possible. (This has been an especially important requirement since the enactment of the Local Government Planning and Land Act 1980; authorities must operate strict cost monitoring systems if they are to control their block allocations and ensure that capital expenditure targets are achieved). An estimate of total fluctuations should be included in the initial approval. Subsequently, the fluctuations element should be identified separately in all financial reports, particularly on large projects, in order to avoid the extra costs of variations (where the Client may be able to exercise some degree of control) being lost in a global sum for "increased costs".

The monitoring and reporting of fluctuations costs is discussed in detail in following sections.

3.3 VARIATIONS

Under the standard forms of contract the Architect or Engineer is empowered to issue instructions to the contractor. These might constitute a variation to the original design, by way of specific instruction relating to work or quantities only provisionally included, or of an alteration to the original scheme. Such variations can have a significant cost implication, if provisional allowances are inadequate, or if alterations are substantial, especially if they involve work already completed. In this connection the client committee should be fully aware of the possible cost implications when contemplating alteration to the original brief, and in any event, although some changes of mind might be unavoidable, should strive for the ideal of clearly defining the brief at the outset and sticking to it.

In view of the possible cost implications alone, there must be recognised limits on the freedom of the design team to issue instructions without prior approval by the committee, together with an agreed procedure for granting approval to proposed variations. These are matters of policy for decision by individual local authorities, in view of their particular circumstances. The arrangements would fall within a spectrum defined by the following extremes:

- (1) Giving complete discretion to the design team to issue instructions. This is the easiest arrangement for the design team to operate, and potentially the most efficient in terms of running the contract. However, it provides no opportunity for the Client to exercise any control.
- (2) Giving no discretion to the design team to issue instructions that carry any extra cost implication. In theory this achieves the maximum feasible degree of financial control by the Client, but could be counter-productive if it resulted in delay in issuing urgently required instructions.

In practical terms, it is important to differentiate between variations in which the Client has an important role to play in exercising judgement regarding quality, extent or political significance, and situations in which Client involvement is unrealistic, as in the following circumstances:

- * Situations in which there is no real option but to introduce a variation if the project is to proceed as envisaged, for example in response to unforeseen ground conditions. Such variations would be brought to the attention of the client committee by the agreed reporting arrangements, which are discussed in a separate section below.

- * The almost inevitable day-to-day, ad hoc variations, in respect of which the designer or Clerk of Works/Site Engineer should be able to make "on the spot" decisions. The cumulative value of such would again be reported to committee by the agreed arrangements.

The delegation of authority over such matters, and over variations of minor significance, would considerably benefit the smooth working of the design team. However, the limits of this discretion should be properly defined, for example by specifying maximum individual values for variations.

Any set of procedures relating to client approval can work only if it is founded on competent professional practice within the design team. For example, to determine whether or not a proposed variation will require client approval, its net cost implication must be determined. This presupposes:

- (1) That the budget available for the relevant item is known. On a building contract this will depend upon the adequacy of the financial information available from the Quantity Surveyor, and the effectiveness of the cost planning process.
- (2) That the designer is able to establish the cost of the proposed variation before its issue, implying (where relevant) a workable liaison procedure with the Quantity Surveyor.

Detailed discussion of professional practice is beyond the scope of this document, except to point out that if a project is substantially under - designed at the start of work on site, cost control is likely to be very difficult. To quote the Architect and Quantity Surveyor respectively on one such large and struggling project, "It is impossible to design within budget in a cost-planning vacuum" and "It is impossible to cost plan in a design vacuum".

This has significant implications for the Client in the pre-contract phase of the job. In particular, the Client should be aware of the critical need for the design team to be allowed sufficient time to work up the design before the start of construction work, and weigh this very carefully when considering the political or budgetary factors that might call for an early start. (This is discussed in more detail in Part Two in relation to pre-contract procedures.)

3.4 CONTINGENCY

A contingency item is usually included in the contract sum. This may be a small figure only, as the contingency is usually the first item to suffer pruning in the event of a need to reduce costs, for example if tenders are found to exceed the desired budget. It may in any case be kept small as a matter of policy, possibly emanating from central government.

However, the inclusion of a realistic contingency allows some flexibility to the design team. For example, if the policy for approval of expenditure is that the design team may not exceed the contract sum (excluding fluctuations), the contingency sum could provide for (say) variations in ground conditions and day-to-day site instructions without the need for recourse to committee, although not for changes in design or brief.

The appropriate level of the contingency sum depends on the nature of the project; for a simple and predictable development, 1 per cent could suffice, whereas for a complex, one-off project, a refurbishing scheme or a job with a high engineering content, it might need to be an order of magnitude larger. In the pre-contract stage the size of the contingency should be a matter for approval by the client committee; it might be appropriate to approve an increase in the event of its expiry during construction. A further matter for client policy decision is whether any significant savings should, in effect, be added to the contingency sum, or reported back to the Client as such, with an appropriate adjustment of the expected outcome. Although (again) the extra flexibility would be valued by the design team, the possibility of savings might be of considerable significance to a client committee faced with the need to meet externally imposed cash limits.

3.5 CONTRACTOR'S CLAIMS

Under the standard forms of contract, in certain circumstances the contractor is able to submit claims for extension of time, and for the reimbursement of loss and expense. Once the financial claims have been adjudicated, the appropriate payment is a contractual obligation, and is not therefore subject to "cost control" as such, with approval only a necessary retrospective formality.

Similar considerations apply to "loss and expense" payments arising in connection with variations implemented by the contractor. The relevant professional is responsible for making a proper valuation, and when he has done so, the client is contractually bound to pay.

The reporting of claims prior to their adjudication is a difficult question, which is addressed in section 5.3.3 below.

3.6 URGENT BUSINESS ARRANGEMENTS

Although the Client may give the design team authority to proceed on many issues without prior approval, and other items will be sufficiently foreseeable to be approved in advance, it is still likely that occasions will arise when client approval is required urgently. Given that Council Committees meet monthly, at their most frequent, this implies some arrangements for the transaction of urgent business.

The nature of these arrangements will depend on the structure of the authority, and its geographical circumstances. However, in most situations an emergency sub-committee comprising the chairman and at least one other member could usefully be appointed, perhaps in conjunction with a written procedure under which their joint authority could be sought under urgent circumstances without the need for a formal meeting. The practice of nominating the chairman only is of doubtful legality and is not recommended.

4.1 THE NEED FOR ADEQUATE MONITORING

Although the day-to-day management of the contract is the sole responsibility of the Contractor, the design team must monitor progress sufficiently frequently and in enough depth to maintain their own clear picture of the situation on site and particularly of the forward trend. This is essential to preserve the Client's interests, and in particular for the following reasons:

- (1) Knowledge of the expected completion date is obviously essential to the Client for his forward-planning purposes.
- (2) The rate of progress has direct implications for cash-flow predictions.
- (3) Under the standard forms of contract the Architect/Engineer is required to adjudicate upon claims for extension of time submitted by the Contractor, which, if sustained, could have substantial financial implications for the Client. These might well be pursued by the Contractor with some vigour, but with little reasoned argument or back-up information. It is thus essential that the Architect/Engineer has his own set of records to enable him to reach rational conclusions, rather than be forced into "horse-trading".

Although this document is not intended as a manual of good professional practice, the following two sections describe some of the fundamental technical requirements for adequate monitoring, in order to provide Members sitting on a client committee with sufficient background information for them to be able to appreciate the reports submitted by the design team.

4.2 MONITORING TECHNIQUE

The application of monitoring techniques is a matter for the professional skill and judgement of the design team, and not all of the following comments would necessarily be found appropriate in respect of all contracts, particularly those that were small or straightforward.

4.2.1 Programme

For a progress assessment to be anything more than a broad impression, it must be made against an appropriate programme.

The method and sequence of construction is the prerogative and responsibility of the Contractor (subject to any stipulations made in the contract documents). The Contractor is thus in the best position to draw up a programme, and normally does so for his own purposes. He may supply a copy to the design team, and the 1980 JCT form for building contracts makes provision for this to be obligatory if the client exercises his option to make this a requirement of the contract. (It should be noted that unqualified acceptance of the contractor's programme would be to the client's disadvantage were it to impose conditions more stringent than those intended by the contract, particularly in respect of the provision of additional information by the designer to time restraints which were not reasonable). It is a contractual requirement under clause 14 of the ICE Conditions of Contract.

4.2.2 Progress checks

Although the Contractor would normally be required to report on progress at the periodical site meeting with the design team, the latter should maintain their own running assessment, with reference to starts and completions of significant activities, and percentage completion figures for work in progress. Although the design team itself is unlikely to have the resources to undertake an independent physical check of progress, the Clerk of Works' weekly progress sheets should provide an adequate tool for making an assessment.

4.2.3 Evaluation of overall progress

It is a common tendency to average out progress on all activities shown on the programme and quote the result as the overall state of progress. This may be adequate in the case (say) of a housing development where trades may proceed relatively independently in a number of dwellings. However, on a large, one-off development, overall progress should be assessed on the basis of the critical item(s) only, if the result is not liable to be consistently misleading.

4.2.4 Trends

In order to identify the likely completion date it is essential to assess the trend of progress. On contracts where there is a fair degree of repetition (as in housing) this is best achieved by making up trend analysis charts (a graphical representation of progress, comprising a plot of percentage completion of major activities against time).

4.2.5 Interim valuations as a guide to progress

Interim valuations are primarily a means of maintaining the Contractor's cash flow during the course of a contract, and cannot be a precise costing of the work completed, in the manner of the final account. Nevertheless, given their conscientious compilation by competent surveyors acting for Client and Contractor, they should provide a reasonably accurate reflection of the value of work completed. Thus if valuations to date are compared with expected expenditure excluding fluctuations, they can provide a broad indicator of the state of progress.

4.3 PROGRESS REVIEWS AND RECORDS

The Project Architect/Engineer should review progress monthly (or as often as may be required), and maintain an appropriate set of records, in addition to such information as might be included in the site meeting minutes. This would not only provide a reliable ready reference within the design team, but also a vehicle to convey information to the senior professional responsible for reporting to the client committee. The format and detail would depend on the nature of the contract, and be a matter of professional judgement. However, the following might be regarded as basic for a contract to be handed over as a single entity (sectional completion arrangements would add some complexity):

- * Original contract completion date
- * Current contract completion date (including extensions already awarded)
- * Outstanding claims for extension of time
- * State of progress (± weeks) against original contract programme
- * Ditto against current programme
- * Gain or loss of time since last report, and reasons
- * Completion date forecast by Contractor
- * Completion date forecast by design team.

4.4 PROGRESS REPORTS TO COMMITTEE

The frequency and detail of reports would be a matter of policy for the client committee. Although the theoretical ideal would be for the information in the previous section to be provided for each contract in every cycle, in practice this is very likely to be unacceptably (and unnecessarily) time-consuming. It will thus be necessary for the client committee to approve parameters for exception reporting, in the light both of their workload, and the professional resources available. These parameters could be designed to lead either to a coarse or fine filtering of problems, depending on the value placed by the client committee on ensuring that matters of possible concern to them did not escape their attention, this being balanced against the value of the other spheres of interest to which their (and their professionals') time could otherwise be devoted.

Selection could be operated on a number of bases, for example:

(1) Reporting contracts where progress was unsatisfactory, that is where:

- * The trend was unsatisfactory (that is, showing a consistent loss of time over a given period, of not more than six months).
- * The accumulated loss of time exceeded a given proportion of the original contract period (not greater than two months for every twelve).
- * The delay had particular significance (for example, in completing a school in relation to the school year).

Quarterly reporting should be adequate for such a system. In order to save their professionals' time, the client committee should accept information as at the last design team internal review prior to copy date for committee papers (provided that internal reviews took place at least monthly). If necessary, this could be supplemented by the latest information on an oral basis.

- (2) Reporting the final outcome of all contracts completed in a given period, with the option of the client committee requiring a detailed report on contracts that were clearly out of the ordinary, or even on a random basis. This approach could be of particular value for small contracts, but would have the disadvantage of not permitting client review during the construction of large projects.

4.5 CONTRACTUALLY SENSITIVE INFORMATION

It would be highly prejudicial to the interests of the local authority, as the Client, if information on the possible outcome of claims for extension of time, or even on the possibility of such claims, reached the ears of the Contractor. In view of the apparently universal possibility of items on the confidential agenda leaking out, the client committee should accept that progress reports should not include predictions in such areas.

5.1 THE ROLE OF THE DESIGN TEAM

To monitor the financial affairs of the contract and to take responsibility for the front line of cost control is an integral part of the professional service provided by the design team. In particular on a building contract it is one of the responsibilities of the Quantity Surveyor to act as the technical accountant for the project, his functions including the following:

- (1) To undertake interim valuations as the basis for the Architect's certificates whereby the Contractor may be paid for work already completed (less retention). As already noted, this cannot be a precision process in accounting terms, but given a professional approach the result will be quite reasonably accurate, resulting in equity for both Contractor and Client.
- (2) To provide all necessary financial advice to other members of the design team, in particular the evaluation of variations, enabling design work either to be undertaken within the constraints of the approved budget, or to be approved by means of the recognised procedures.
- (3) To supply all the necessary financial information required by the Client for the purposes of his financial management and control.

The first two functions above are a matter solely of the exercise of the professional skills of the design team, and as such do not call for intervention or control by the Client, although they are obviously an area of legitimate concern to the Auditor. (The role of the Auditor is discussed in Section 6.5 below). In relation to the third function, the accuracy and adequacy of the information is obviously the responsibility of the design team, but the format, detail and frequency of the reports is a matter of Client policy and direction, in consultation with his professionals. This is discussed in detail in the relevant paragraphs following.

On small building contracts, the foregoing functions might be the responsibility of the Architect (in the absence of a quantity surveyor) and on contracts of a civil engineering nature, they are generally the sole responsibility of the Engineer; however the principles remain the same.

5.2 INTERNAL FINANCIAL PROCEDURES AND REVIEWS

The accuracy and value of cost reports to the Client will obviously depend on the adequacy of the internal procedures operated by the design team, and the skill with which they are undertaken. Detailed discussion of this area is beyond the scope of this document, and one comment only is offered, namely that it is recommended for all except the smallest contracts that "cost statements" should be compiled on a regular basis for the reason that they provide:

- (1) A convenient system of recording the financial history of the project;

- (2) A vehicle to provide essential financial information to those whom it should concern;
- (3) A natural means of self-discipline within the design team, facilitating proper financial reviews at regular intervals.

The format, frequency and detail of such statements would be a matter for the professional judgement of the design team, one of whose objectives would be to design a form that permitted easy abstraction of the information to be reported to the client committee, particularly if a computerised system were employed.

5.3 REPORTS TO COMMITTEE DURING THE CURRENCY OF A CONTRACT

As already noted, it is the responsibility of the client committee to identify their requirements in financial reporting. Policy should cover the following areas:

5.3.1 Information to be included

The following represents a theoretical optimum level of detail; however on many contracts it would be feasible to receive less, although on large or difficult contracts it might be expedient to require more. Where relevant, figures should be quoted at base date:

- (1) Original contract sum, plus initial estimate of fluctuations, less contingency sum
- (2) Estimated cost of variations
- (3) Adjustments to Prime Cost and Provisional Sums, and provisional quantities
- (4) Forecast total fluctuations
- (5) Forecast final cost
- (6) Valuations to date, net of fluctuations
- (7) Fluctuations to date.

All forecasts relating to items still the subject of settlement with the contractor should be treated as confidential (especially claims - see section 5.3.3 below)

5.3.2 Prior approval of variations

If (as discussed in section 3 above) client committee policy is to require prior approval of certain variations, the status of variations included in the report should be made clear, viz:

- * Already approved
- * Approved under "urgent business" arrangements
- * Instructed under discretion granted to design team, but not yet approved
- * Proposed, but not approved or instructed by any arrangement.

5.3.3 Contractors' claims

As with claims in the context of progress, financial claims arising from delays and other causes can be the subject of protracted and vigorous negotiations, and reporting of costs in this connection must be undertaken with considerable sensitivity. For any estimate to become known to the contractor might be highly prejudicial to the Client's interests, as it could give the former a target to achieve, if not to exceed.

Thus references to claims should be made in broad terms, and confined to the confidential section of the agenda. Furthermore, given the universal tendency for sensitive information to leak out, provision against claims should be made in such a way (perhaps on a global basis) that sums set aside for settlements on individual contracts could not be identified.

5.3.4 Exception reporting

As with reports on progress, practical considerations are likely to dictate the adoption of exception reporting principles. Definition of the reporting criteria would be a matter for approval by the client committee, but it is envisaged that contracts would not be reported if proceeding as planned, that is unless:

- * Proposed variations were being submitted for financial approval, in which case it would be logical to provide a cost statement.
- * Either a single variation or the total estimated cost of variations exceeded a prescribed limit, which should not be greater than 10 per cent of the contract sum. (The committee may also wish to determine a cash limit so that what may be large variations on high value contracts do not escape member scrutiny.)
- * The contract was reported for poor progress, which would have automatic implications in terms of increased fluctuations.

5.3.5 Format

The format of the report should be such that the build-up of the latest predicted final cost can be readily identified, and be reconciled to other information (for example, documentation relating to approvals) and to previous reports.

5.3.6 Frequency

The basic reporting interval should not be less frequent than quarterly. However, in an exception reporting system, reports should be submitted at the first opportunity following triggering of the procedure.

5.3.7 Presentation of reports

In instances on building contracts where some explanation of or enlargement upon the figures might be necessary (as would probably be the case with all submissions under an exception reporting system), reports to committee should be compiled and presented by the Quantity Surveyor, in consultation with the design team leader.

5.3.8 Interpretation of reports

In interpreting cost reports, the client committee should not regard the final out-turn figure as totally firm, but give due regard to the following:

- * The valuation of a variation at the time of issue is the Quantity Surveyor's estimate, and is subject to agreement with the Contractor.
- * The forecast of fluctuations can be inspired guesswork only.
- * In addition to assumptions regarding the future rate of inflation, the report will rest on a number of predictions, primarily the date of completion. (All such should be made clear.)
- * For reasons already discussed, the report will not include a forecast of the outcome of contractors' claims.

5.4 REPORTS TO COMMITTEE AT FINAL ACCOUNT STAGE

The degree of detail to be reported at Final Account stage is a matter of policy for the client committee, but logically would follow that for the reports submitted during the currency of the project, with the exception that all contracts should be dealt with. The minimum requirement of information on contracts not reported during the contract under exception principles would be as follows:

- * The approved contract sum
- * The final account figure
- * Forecast and actual fluctuations.

In all cases, a full explanatory text should be included if necessary.

In addition, in view of the commonplace delays in settling final accounts (in some cases it is never done), all contracts certified as practically complete but awaiting settlement of final account should be reported as such, together with an explanation of the delay where it exceeds the period stipulated in the contract for settlement of the final account.

5.5 CAPITAL MONITORING

The design team should produce the information on contract expenditure necessary for the local authority to undertake the cash flow forecasting and monitoring essential for it to control its financial affairs, and in particular for it to meet its obligations with regard to the cash limit controls imposed under current legislation.

Expenditure under the contract is one element only of the total capital cost of a scheme, albeit usually the major element. Procedures for collecting and collating all the relevant information will vary according to the structure and circumstances of the local authority. However, the design team will be responsible for providing information on at least the following aspects during the construction phase:

5.5.1 Expenditure under the contract

The design team should report on contract costs as required by the Treasurer, with whom agreement should be reached regarding detail, format and frequency. The following would be regarded as a minimum, presented at least annually:

- * Expenditure to date
- * Expenditure forecast for current financial year
- * Expenditure forecast for next year
- * Balance of expenditure during remaining period of contract.

Each of the foregoing should be analysed into base date costs and fluctuations.

On a building contract, responsibility for producing this information would normally lie with the Quantity Surveyor, although the various necessary assumptions relating to future progress, the outcome of claims, etc, would have to be made in conjunction with the remainder of the team. The Engineer would normally compile the information on a civil engineering project. The local authority itself might wish to stipulate the assumptions to be made relating to future inflation, in order to achieve consistency of reporting between different projects.

5.5.2 Professional fees and/or salaries

The design team should produce a statement of the actual and estimated costs of design work and other professional services, in the categories noted in paragraph 5.5.1 above. In the case of external consultants payments would be on the basis of the relevant fee scale (or as agreed); the cost of in-house professionals would normally be represented by their salaries and an appropriate apportionment of overheads.

5.5.3 Other contracts

In addition to the budgetary implications of (say) built-in furniture and other items installed under the main construction contract, the design team may be responsible for furniture, furnishings and equipment provided under separate contracts. Similarly landscaping and specialist works might be the subject of separate contracts.

6.1 THE OBJECTIVE OF INTERNAL REGULATIONS

Procedures and recognised good practice relating to the management of capital projects should be clearly described in a set of regulations, normally incorporated in various documents according to subject matter. Typically these would comprise:

- * Standing orders
- * Financial regulations
- * Departmental practice notes.

For simplicity this document generally refers to "standing orders", but this could be taken to imply financial regulations or committee approved procedure notes, according to the practice of individual authorities.

The purpose of such regulations is to define the specific duties of both client committees and the professional officers serving them, and to define the proper procedures whereby these duties can be discharged. The degree of detail to be included is a matter of judgement for the authority, in particular of the right balance between providing an adequate safeguard against bad management, and reducing efficiency by inhibiting initiative and the exercise of professional skills.

The issues raised in preceding sections should receive specific recognition in the regulations. These are discussed under appropriate headings in the following paragraphs.

6.2 APPROVAL OF EXPENDITURE

Standing orders should require a client committee to approve appropriate arrangements for the prior approval of instructions to the Contractor involving a net extra cost. In particular standing orders should specify the situations in which the design team would be at liberty to proceed without prior approval (although giving the Committee discretion to vary the rules). Such situations would normally be:

- * Instructions with an individual net cost implication of less than a certain value
- * Instructions essential on technical grounds for the project to proceed.

Standing orders should require client committees to establish 'urgent business' procedures, and describe acceptable arrangements (again subject to the discretion of committee). These would normally comprise a sub-committee of no less and preferably no more than two members, including the Chairman of the Committee, perhaps in conjunction with the Chief Technical Officer.

In all the foregoing instances, where a 'certain' figure is referred to, standing orders should quote a specific figure as the norm, but giving discretion to the Committee to vary it.

The precise mechanisms whereby approval was sought and given in the foregoing could be covered in practice notes issued by the relevant technical department.

6.3 REPORTING PROGRESS AND COST

6.3.1 During currency of contract

Standing orders should require client committees to approve appropriate arrangements for reporting progress and costs, with reference to the detail required, acceptable format and the desired frequency. In this connection, sample forms to suit various types and values of contract might be included in the practice notes of the technical department. The client committee should also be required to stipulate the "exception" criteria under which regular reports would or would not be required: standing orders could include standard criteria as follows (subject to variation by committee):

Progress to be reported only if

- * There had been a consistent loss of time over (six) months, or
- * The accumulated loss of time amounted to more than (two) months for every twelve on the original programme, or
- * The loss of time had particular significance for the client.

Cost not to be reported unless:

- * Prior approval of the cost of variations had been necessary, by either normal or "urgent business" arrangements, or
- * The total net cost of variations exceeded (10 per cent) of the contract sum, or
- * The progress of the contract had been reported.

6.3.2 Final account stage

Standing orders should stipulate that all contracts are reported to the client committee upon settlement of the final account. Standing orders should quote the following information as a minimum:

- * The approved contract sum
- * The final account figure (net of fluctuations)
- * Estimated and actual fluctuations.

6.3.3 Capital monitoring

To allow the authority to undertake its responsibilities in cash-flow monitoring and forecasting, standing orders should require client committees to instruct the responsible officer/consultant to submit capital monitoring statements to the Treasurer of the authority, to his satisfaction. Appropriate forms might be included in departmental practice notes, or the requirement described in the financial regulations.

6.4 PROCEDURES WITHIN THE DESIGN TEAM

As already noted, this area is not normally the subject of attention and formal regulation by the Client, and is thus beyond the scope of this document. It is noted only that in relation to external consultants, standing orders should stipulate that they be required to give full cooperation to the authority's auditors.

6.5 THE ROLE OF THE AUDITOR

It is the responsibility of the elected membership of each local authority to ensure that capital projects are effectively monitored and controlled, by the application of the principles identified in this document. As pointed out by the Chief Inspector of Audit in his 1978/79 report, authorities should employ the internal audit function in checking that these principles are properly embodied in the procedures they operate and in testing the efficacy of contract control systems by means of detailed checks and examination of specific aspects of selected contracts.

Despite the fact that contract auditing is a well-documented subject it is acknowledged by all the professions concerned that it is a difficult area, because of the existing line management and/or contractual responsibilities of professional technical officers and consultants employed by the authority themselves to manage and control construction contracts. The tri-partite statement of the joint working party of CIPFA, RICS and SCALA mentioned in Section 1.2 above provides guidance on how the harmonious integration of the internal audit function with that of the professional officers and consultants responsible for construction contracts may best be achieved.

"The public client and the construction industries" (The Wood report) NEDO, 1975. Published by HMSO.

"The management of local authority housebuilding programmes" - first report of the Development Management Working Group, November 1977. Published by DOE on behalf of AMA, ADC, LBA and GLC.

"Value for money in local authority housebuilding programmes" - second report of the Development Management Working Group, October 1978. Published by DOE on behalf of AMA, ADC, LBA and GLC.

"The client role in public sector housebuilding" - a report of the Housing Services Advisory Group - January 1978.

"Financial examination and audit of capital contracts" CIPFA, 1976.

"A review of building construction practices in local authorities" CIPFA, July 1978.

"Code of procedures for local authority housebuilding" DOE, 1978 and as updated.

"Contract audit" - articles contained in a special feature published in the July 1981 issue of Public Finance and Accountancy, a CIPFA publication.

"The control of building projects - the role of professional officers in local government" - a tri-partite statement and practical guide issued by CIPFA, RICS, SCALA.